University of the Philippines Manila
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PharmExSys: A Rule-Based
Expert System for Recommending Pharmaceutical Drugs and
an Educational Resource
Tool for Pharmacology

A Special Problem in partial fulfilment
of the requirements for the degree of
Bachelor of Science in Computer Science

Submitted by:

Renzon Greg D. Manansala
April 2010

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ACCEPTANCE SHEET

The Special Problem entitled "PharmExSys: A Rule-based Expert System for Recommending Pharmaceutical Drugs and an Educational Resource Tool for Pharmacology" prepared and submitted by Renzon Greg D. Manansala in partial fulfilment of the requirements for the degree of Bachelor of Science in Computer Science has been examined and is recommended for acceptance.

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ABSTRACT

Pharmacy Expert System (PharmExSys) is a system developed to aid in recommending pharmaceutical drugs and also to function as an educational resource tool in studying pharmacology courses. Applications and expert systems such as PharmExSys are dedicated to perform tasks at a human expert level.

The system was created to augment the present laborious and repetitive method of addressing specific pharmaceutical needs of consumers when seeking assistance from pharmacy aides and technicians. Additionally, it was designed to provide a supplemental source of learning pharmacology which is a very information-intensive course in the pharmacy practice.

PharmExSys was developed as a rule-based, interactive and user-friendly web-based portal. It provides the users (pharmacy aide/technicians, pharmacy students and consumers) the appropriate drug recommendation to address some of the most common health concern by answering an algorithmic series of 'yes' or 'no' questions called rules(from MIMS Pharmacy Guide) and evaluate a user's responses called inputs with the knowledge base of the system. The system will also serve as a tool that would aid in educating pharmacy students and trainees in relation to field of pharmacology.

Keywords: Pharmacy, pharmacology, pharmaceutical drugs, pharmacy aide/technician, MIMS Pharmacy Guide, expert system, rule-based system

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I. INTRODUCTION

1.1. Background of the Study

A drug is a chemical substance used in the treatment, cure, prevention, or diagnosis of disease and other abnormal condition [1]. Drugs are also used to control or improve any physiologic or pathologic condition [2]. Drugs may be taken for a limited period of time or on a regular basis depending on the situation of a person. In particular, a medication or a medicine is a drug taken to address the medical condition of a person [3].

As regulated by the government, medicines can be categorized into three groups based on how they are dispensed to the consumers: 1) over-the-counter (OTC) medicines, 2) behind-the-counter (BTC) medicines, and 3) prescription only medicines (POM) [4]. Both OTC and BTC medicines are dispensed as non-prescription or without the need to present a physician's prescription to be able to legally purchase these medicines in pharmacies. By definition, the difference between these non-prescription medicines is that behind-the-counter medicines are specifically dispensed in the presence of a pharmacist. And by convention, over-the-counter medicines are readily accessible in pharmacies without particular restrictions. But since most consumers still seek the assistance of pharmacists, OTC medicines at present are often sold essentially behind the counter. Conversely, POMs or Rx-only drugs require physician's prescription before being able to legally purchase or obtain them.

Pharmacists in drugstores are the ones "in-charge to ensure the safe and effective use of pharmaceutical products" [5]. The scope of pharmacy practice includes more traditional roles such as compounding and dispensing medications, and it also includes more modern services related to health care, including clinical services, reviewing medications for safety and efficacy,

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and providing drug information [6]. Thus, licensed pharmacists are considered as experts in drug therapy who offer their expertise to each consumer. A pharmacist's job is very tedious and complex. Thus, pharmacy aides and technicians were created to also perform pharmacy functions under the supervision of a licensed pharmacist [7]. With the continuous increase in the population and with the ever-growing number of available licensed drugs, both pharmacy students/trainees and pharmacy aides/technicians are required to have sufficient knowledge and skills in order for them to render their service at optimal as possible.

With this at hand, the researcher found it compelling that creation of a rule-based expert system to aid in the selection of drugs and to serve as an educational tool would be of great help to professionals such as pharmacy aides/technicians and to non-professionals such as pharmacy students/trainees and the consumers.

1.2. Statement of the Problem

The role of pharmacy aides and technicians in dispensing medicines to consumers and performing other pharmacy functions is a very vital and crucial task. Since they deal with the welfare of a patient, careful and accurate decision should be made by them. In order for them to render their service at maximum potential, they must address all the needs of each consumer as optimal as possible. As a consequence, consumers often wait in long lines in drugstores before an employee is able to attend to their needs. This problem can also be aggravated by concerns such as only few licensed pharmacist (most of the time there's only one) are employed in a drugstore and also to the fact that the demand for medicines is high due to the considerable number of people contacting diseases. Another problem that can occur is the possibility of

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committing human error on the side of the pharmacy aides and technicians in dispensing the appropriate medicine.

As for pharmacy students and trainees (e.g. pharmacy aides/technicians), adequate knowledge on pharmaceutical drugs is required for them to study and know. Pharmacology is the subject that covers this particular science of medications. Pharmacology is very comprehensive and important that pharmacy students take this subject on a span of two semesters. A common problem with this is the fact that there are thousands (and still counting) of pharmaceutical drugs made available for the consumers and studying or even familiarizing oneself to these drugs is a very tedious and difficult task.

Many applications and expert systems are dedicated to perform tasks at a human expert level. Because of the information-intensive nature of pharmacy practice, this field is particularly suited to use for expert systems. Current applications include screening for drug interactions and therapeutic drug monitoring. Expert systems must offer a substantial advantage over human expertise in order for them to gain widespread use [8]. While information on medicines and illnesses can be easily accessed in the internet, there's no assurance that the data presented is appropriate. As a matter of fact, a recent study found out that the well-known, online free encyclopedia - Wikipedia often omits important drug information. Harding (2008) cited that the "consumers who rely on the user-edited Web resource Wikipedia for information on medications are putting themselves at risk of potentially harmful drug interactions and adverse effects, new research shows [9]."

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1.3. Objectives of the Study

Main Objective

The researcher proposes to develop a rule-based, interactive, user-friendly system for selecting drugs and also as an educational tool for pharmacology. The system will provide the users (pharmacy aide/technicians, pharmacy students and consumers) the appropriate drug recommendation to address some of the most common health concern by answering an algorithmic series of 'yes' or 'no' questions(rules) and evaluate a user's responses(inputs) with the knowledge base of the system. The system will also serve as a tool that would aid in educating pharmacy students and trainees in relation to field of pharmacology.

Specific Objectives

To develop an educational rule-based expert system having the following functionalities:

1.3.1   Allow the pharmacy aides/technicians and students to :

a) Search and browse drugs by inputting or choosing one or more of the following:

i) generic name,

ii) brand name,

iii) OTC or RX drugs,

iv) drug class,

v) its most common indication,

vi) or other pertinent drug information such as : manufacturer, drug regulation contents, dosage, administration of oral drugs, Pre-&Post-Prandial advice, special precautions, adverse reactions, drug indication, presentation/price and US FDA Pregnancy Category.

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b) Search and browse information about a certain disease or condition based on the latest version of MIMS Pharmacy Guide, Philippine edition.

c) Take a tutorial on pharmacology. This includes basic lessons on drugs, including their classification, composition, uses, and effects.

e) Take an online assessment to evaluate his/her knowledge on drugs and pharmacology. The assessment is automatically generated by the system based on the data stored in the database.

f) Use the system to evaluate the inputs with the rules to generate the appropriate patient advice on the most common disease or concerns. The user will choose his/her main health concern (i.e. colds, diarrhea, etc.) and with the rules based on the latest version of MIMS Pharmacy Guide, Philippine Edition the user will then answer a couple of 'Yes' or 'No' questions until a decision can be made by the system. Recommendation of the system includes treatment options, dispensing tips, products and a report of the activity made by the user.

1.3.2   Allow the system administrator/system expert to :

a) Update health concerns and rules for the knowledge base of the system

b) Add new drug class or specific drugs according to its most common indication.

c) Search and browse drugs by inputting or choosing one or more of the following:

      i) generic name,

      ii) brand name,

      iii) OTC or RX drugs,

      iv) drug class,

      v) its most common indication,

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vi) and other pertinent drug information such as : manufacturer, drug regulation contents, dosage, administration of oral drugs, Pre-&Post-Prandial advice, special precautions, adverse reactions, drug indication, presentation/price and US FDA Pregnancy Category.

d) Create an assessment module. The user can add questions, concepts, and problem sets based on the pharmacology topics covered in the online tutorial.

e) Create a tutorial module. The user can upload files for pharmacology topics and must be able to sort and search tutorial topics.

f) Update exam questions and answers.

g) Search and browse information about a certain disease or condition based on the latest version of MIMS Pharmacy Guide, Philippine edition.

1.3.3   Allow the consumers/patients/guests to:

a) Use the system to evaluate the inputs with the rules to generate the appropriate patient advice on the most common disease or concerns. The user will choose his/her main health concern (i.e. colds, diarrhea, etc.) and with the rules based on the latest version of MIMS Pharmacy Guide, Philippine Edition the user will then answer a couple of 'Yes' or 'No' questions until a decision can be made by the system. Recommendation of the system includes treatment options, dispensing tips, products and a report of the activity made by the user.

b) Search and browse information about a certain disease or condition based on the latest version of MIMS Pharmacy Guide, Philippine edition.

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1.4. Significance of the Study

The proposed rule-based expert system is intended to aid pharmacy aides and technicians to expedite the decision making process on the selection of the appropriate medication to address a certain common health condition. The system is intended to be of great help to pharmacy aides/ technicians and to pharmacy students by providing an alternative educational tool on the subject of pharmacology. It is also aimed that the system will be a very comprehensive source of knowledge on drug information. The expert system is expected to cut down the waiting time of each costumer by making it possible for the pharmacy aides/technicians and the in-progress costumer to transact quickly but accurately freeing the pharmacist to do more complex and important tasks. Also another main goal of the system is to reduce or eliminate error and inconsistency on the side of pharmacy aides/technicians in choosing medications by strictly following the standard procedures followed by human experts or the pharmacists on some of the most common health concerns. Formalization of knowledge rules for the appropriate selection of medications on some of the most common disease and concerns (latest Philippine edition, MIMS Pharmacy Guide-style) is expected to be realized by the creation of system.

1.5. Scope and Limitations

Listed below are the scope and limitations of the proposed system:

1.5.1   The rules to be implemented in the system will be based on the latest version of MIMS PHARMACY GUIDE (Philippine edition).

1.5.2   The expert (e.g. licensed pharmacist or professor) is the system administrator.

1.5.3   The generation of advice to patient specific medication is limited only to the rules in the latest version of MIMS PHARMACY GUIDE (Philippine edition).

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2. The questions in the online exam would only be limited to "true or false" and multiple choice types of questions. Also the scores or result of an examiner would not be stored in the system's database.

3. The questions although randomly generated will include all the questions available in the database.

4. The system will not eliminate the need to have pharmacists in drugstores but will only aim to aid the selection of the appropriate medication of each costumer/ patient.

5. The system is intended only to serve as an alternative educational tool for pharmacy students and trainees.

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II. Review of Related Literature

This review of literature of the proposed project focuses on existing systems with applications in the field of pharmacy that aids in decision making. Also, a brief review of other existing decision support systems in the medical field and other related pertinent topics was made. Expert systems in areas such as weather prediction, nuclear plant monitoring, factory scheduling and other areas continue to grow in numbers. At par, developing systems for medical field have also increased, specifically, tools for decision support [10].

The effective and safe administration of pharmaceuticals to patients has become more challenging because of two developments. One is the ever increasing population of patients, as medical treatments become more sophisticated, and the other is the growing number of drugs available for the treatment of disease, with an ever increasing information about these drugs becoming available [11]. Information about health concerns and medical treatments are widely available in the public via the internet.

Websites such as medicineonline.com, nlm.nih.gov, drugdigest.org and many other more empower the consumers to make informed choices about drugs and treatment options [12-14]. Aside from drug and illness information the common content of these sites are web forums, news and announcements. But browsing these websites could be trivial for some users since loads of information is presented at once. Also the risk of acquiring unreliable data is unavoidable since source of the information could not be verified.

Some web databases such as drugs.com and druginfonet.com function the same as the above mentioned websites [15-16]. Another web database is the NCI Drug Information System 3D Database that includes 3D structures of over 400,000 drugs [17]. Although web databases are

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trustworthy source of information the complexity of their interfaces are still a concern considering the vast and complex data handled by these web-based systems.

Although tons on information about health concerns that could help consumers are available via the internet, the expertise of human professionals that could address consumer-specific needs is still unmatched. Conversely, with expert systems it is possible to mimic the decision-making capability of professionals such as pharmacists. Albert R. Brill together with his colleagues built a Non-Prescription Drug Medication Screening System. The system is "for use in pharmacies which uses costumer inputs to assist the costumer with the selection of an appropriate non-prescription medication to relieve symptoms of an illness, injury or the like [18]." The system accepts registered user's inputted information and is then used by the knowledgebase then finally it finds a match in the database before coming up with the suitable drug recommendation. Additionally, the system can generate session report that includes the summary and result of the user's activity with the system. The system was implemented to include only 4 main symptoms: 1) Cough and cold, 2) Pain, 3) Stomach Problems and 5) Allergies which aims to include more symptoms in future. The system is implemented using C language.

A similar system related to "Non-Prescription Drug Medication Screening System" is called "Providing Patient-Specific Drug Information". In this invention it presented a "systems and methods for processing data relating to the use of a drug by a patient that receive patient information and determine a dosage of the drug on the basis of the patient information [11]." Specifically the system works on an index drug in which operations are made to come up with a) patient-specific drug dosage or cost b) side effects on certain factors c) drug to drug interactions, et.al, see [11]. Also the system can be used to prepare drug orders and prescriptions. Likewise, a

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system called SETH which is "an expert system for the management on acute drug poisoning in adults [19]" is developed with an off the shelf expert system shell. The system although built with an expert system shell functions like any other expert system that simulates a professional's expertise.

Another system is the RXPERT —"a prototype, computer-based, expert system that models the decision-making processes for an ambulatory (non-hospital) formulary [20]" that shows how an expert system can be used to support pharmacy decision making. Greer (1992) claimed that decision-support expert systems such as RXPERT can be potentially useful or can aid complex decision making process of pharmacists.

Aside from expert systems used to support pharmacists with their job, systems such as DoseChecker, Cerner Multum and Colorado Medicaid Utilization Review System are used to detect or check possible concerns or problems related to dispensing of drugs. DoseChecker is "an automated system for screening drug orders for potential dosage problems [21]." The system makes use of information from pharmacy, laboratory, and patient demographic data together with user-defined rules primarily to "(1) identify patients receiving any of 35 targeted medications, (2) evaluate the appropriateness of current dosages, and (3) generate alerts for patients potentially needing dosage adjustments [21]". The system serves as a unique tool to help pharmacists evaluate multivariate data of patients that is necessary for the pharmacists to recommend dosage adjustments. The system was put into operation and the researchers concluded that the system provided an efficient method of identifying inappropriate dosages at a large university hospital. In a paper entitled "Implementing a Commercial Rule Base as a Medication Order Safety Net" presented how a commercial rule base (Cerner Multum) was used to identify medication orders exceeding recommended dosage limits at five hospitals within BJC

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HealthCare, an integrated health care system [22]. Reichley(2005) et al., cited that modification of commercial rule base can lead to quick implementation for screening drug orders and still preserve rule architecture. Another system identical to [21-22] is the Colorado Medicaid utilization review system. It's an expert system that performs quality review of drug prescribing for Medicaid patients [23]. The system reviews patient medical histories "looking for temporal patterns of events which indicate scenarios of either hazardous or unnecessarily expensive prescribing [23]." Ultimately, it can be deduced from the above mentioned systems [21-23] that validity of information yielded from these systems still needs to be verified and reviewed by human experts.

Also to note some pertinent systems related to medical diagnosis are the following systems. DXplain, CADET II, and Universal Computer Assisted Diagnosis [24-26] are some examples of systems in the medical field specifically for diagnosis of health concerns. Correct diagnosis of health concerns is a very important prerequisite in choosing medications. To briefly cite one of these systems is the DXplain - A Web-Based Clinical Reference/Decision Support Tool. DXplain "serves as a clinical reference/decision support tool and differential diagnosis educational resource [24]" and to evaluate the users' satisfaction with the system a study was conducted. The study revealed that the "data [collected] reflect a significant level of satisfaction with the system among residents. Their recognition that it frequently led them to consider novel diagnoses suggests it had a positive educational impact [27]." In another study that aimed to evaluate the performance of CADET II in UK breast screening programme showed that the single reading computer-aided detection with CADET II was comparable to that of a double reading [28]. The results also showed the great potential of computer-aided detection (CAD) to improve the efficiency in early breast cancer detection amongst women.

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In this review of related literature it was shown that expert systems however, are not intended to replace the decision capabilities of a professional, offer a wide range of potential advantages. Expert systems are known to make the decision-making process of experts to be precise, consistent and easier to document. Many have already realized the application of expert system in the field of pharmacy and medicine that aims to give patients optimal health services.

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III. Conceptual/Theoretical Framework

3.1 Pharmacology

Pharmacology can be defined as the study of substances that interact with living systems through chemical processes, especially by binding to regulatory molecules and activating or inhibiting normal body processes. These substances may be chemicals administered to achieve a beneficial therapeutic effect on some process within the patient or for their toxic effects on regulatory processes in parasites infecting the patient. Such deliberate therapeutic applications may be considered the proper role of medical pharmacology, which is often defined as the science of substances used to prevent, diagnose, and treat disease [29].

3.2 Medication Class

A drug class is a group of medications that may work in the same way, have a similar chemical structure, or are used to treat the same health condition. A drug may be classified by the chemical type of the active ingredient or by the way it is used to treat a particular condition. Each drug can be classified into one or more drug classes [30].

The following is a list of some of the drug classifications [31]:

analgesics
androgens and anabolic steroids
angiotensin converting enzyme inhibitors
angiotensin II inhibitors
anorectal preparations
anorexiants
antacids
anthelmintics
anti-angiogenic ophthalmic agents
anti-infectives
antiadrenergic agents, centrally acting

antiadrenergic agents, peripherally acting
antiandrogens
antianginal agents
antiarrhythmic agents
antiasthmatic combinations
antibiotics/antineoplastics
anticholinergic antiemetics
anticholinergic antiparkinson agents
anticholinergic bronchodilators
anticholinergics/antispasmodics

The following is a sample list of medications provided by Medbank divided into classes based on the drug's mechanism of action or most common indication [32].

Acne
Accutane
Benzagel Gel
Benzagel Wash
Benzamycin Gel
Renova
Retin-A
Sulfacet-R lotion
Triaz (gel, cleanser)

ADHD
Concerta
Cylert
Dexedrine
Focalin
Ritalin LA

AIDS
Agenerase
Combivir
Crixivan
Epivir
Epivir HBV
Fortovase
HIVID
Invirase
Kaletra
Mepron
Norvir
Retrovir
Sustiva
Trizivir
Videx oral solution
Viramune
Viread
Zerit oral solution
Ziagen
Lidoderm

Angina
Imdur
Minitran
Nitrik
Nitro-Dur
Nitrogard
Nitrolingual Spray

Antianxiety
BuSpar dividose
Diastat
Klonopin
Valium
Vistaril

Antiarrhythmic Agent
Betapace
Betapace AF
Cordarone
Ethmozine
Lanoxicaps
Lanoxin
Procanbid
Pronestyl
Pronestyl-SR
Rhythmol
Tambocor
Tonocard

Below is a sample entry of a medication under its drug classification as printed in the PIMS 114th edition. (See Appendix A)

RITALIN   **Rx**
- **Novartis Healthcare [Zuellig]**
- **C: Methylphenidate HCl**
- **I: ADHD**
- **D:** *Adult* 20-30 mg in 2-3 divided doses. Patients unable to sleep if medication is taken late in the day should take the last dose before 6pm.
- *Childn>= 6 yr* 5 mg once or bid w/ wkly increments 5-10 mg. Max: 60 mg
- **A:** Take 3-=45 mins before meals.
- **CI:** Anxiety, tension, hyperthyroidism, cardiac arrhythmia, severe angina pectoris, glaucoma, diagnosis of motor tics or tics in sibling &/or of family history of Tourette's syndrome.
- **SP:** Pre-existing structural cardiac abnormalities, CV conditions (severe HTN), misuse of stimulants. Chronic abuse can lead to marked tolerance and psychological dependence.

Epileptic and emotionally unstable patients. Childn <6 yr. Pregnancy and lactation. May impair ability to drive or operate machinery.

- **AR:** Headache, drowsiness, dizziness, dyskinesia, tachycardia, palpitation, arrhythmias, BP & heart rate changes (usually increased), abdominal pain, nausea, vomiting, dry mouth, pruritus, urticaria, fever, hair loss, arthralgia.
- **DI:** Pressor agents & MAOIs. Coumarin anticoagulants, phenolbarbital, phenytoin, primidone, phenylbutazone & tricyclic antidepressants. Guanethidine, alcohol.
- **P/P: Ritalin tab** 10mg x 30's (P 1,070.30.)
- **US FDA Preg Cat**: C

This section contains essential scientific prescribing information about pharmacological class. Product entry under each class is mainly by brand name and basic information given includes: manufacturer, distributor(in brackets [ ]), drug regulation contents (C), indications (I), dosage (D), administration of oral drugs (A), (Pre-&Post-Prandial Advice [PPPA]), contraindications (CI), special precautions (SP), adverse reactions (AR), drug indication (DI), presentation/price (P/P), US FDA Pregnancy Category [33].

3.3 Medication Schedules

There are eight schedules included in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP):

Schedule 1 - (Defunct)

This schedule is no longer used.

Schedule 2 - Pharmacy Medicine

Schedule 2 (S2) poisons, otherwise known as Pharmacy Medicines, are substances and preparations for therapeutic use -

- which are substantially safe in use but where advice or counselling is available if necessary

- for minor ailments or symptoms which -

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- can be easily recognised by the consumer

- do not require medical diagnosis or management

The location in the pharmacy in which these medications may be stored varies from state to state.

Schedule 3 - Pharmacists Only Medicine

Schedule 3 (S3) poisons, otherwise known as Pharmacist Only Medicines, are substances and preparations for therapeutic use -

- which are substantially safe in use but require professional advice or counselling by a pharmacist

- the use of which requires pharmacist advice, management or monitoring

- which MUST be personally handed to the patient by the pharmacist

- which are for ailments or symptoms which -

- can be identified by the consumer and verified by a pharmacist

- do not require medical diagnosis or only require initial medical diagnosis, and do not require close medical management

Only some Schedule 3 medicines can be advertised to the public.

Schedule 4 - Prescriptions Only Medicine/Animal Prescription Remedy

Schedule 4 (S4) poisons, otherwise known as Prescription Only Medicines, are substances and preparations for therapeutic use -

- the use of which requires professional medical, dental or veterinary management or monitoring

- which are for ailments or symptoms that require professional medical, dental or veterinary diagnosis or management

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- the safety or efficacy of which may require further evaluation

- which are new therapeutic substances

   In some states, there are subsets of Schedule 4 with additional requirements (see below).

Schedule 4 medicines cannot be advertised directly to the public.

Schedule 5 - Caution

   Schedule 5 (S5) poisons are substances and preparations which -

- have low toxicity or a low concentration

- have a low to moderate hazard

- are capable of causing only minor adverse effects to human being in normal use

- require caution in handling, storage or use

Schedule 6 - Poison

   Schedule 6 (S6) poisons are substances and preparations -

- with moderate to high toxicity

- which may cause death or severe injury if ingested, inhaled or in contact with the skin or

Schedule 7 - Dangerous Poison

   Schedule 7 (S7) poisons are substances and preparations -

- with high to extremely high toxicity

- which can cause death or severe injury at low exposures

- which require special precautions in their manufacture, handling or use

- which may require special regulations restricting their availability, possession or use

- which are too hazardous for domestic use or use by untrained persons

Schedule 8 - Controlled Drug (Possession without authority illegal)

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Schedule 8 (S8) poisons, otherwise known as Controlled Drugs, are substances and preparations for therapeutic use -

- which are dependence producing

- which are likely to be abused or misused

Schedule 9 - Prohibited Substance

Schedule 9 (S9) poisons are substances and preparations which, by law, may only be used for research purposes. The sale, distribution, use and manufacture of such substances are strictly prohibited under the law.

Unscheduled - Substances

Unscheduled substances do not belong to any of the above schedules. Many of these preparations are also sold in supermarkets in addition to pharmacies [34].

3.4 Prescription Drugs

A prescription drug is a licensed medicine that is regulated by legislation to require a prescription before it can be obtained. The term is used to distinguish it from over-the-counter drugs which can be obtained without a prescription. Different jurisdictions have different definitions of what constitutes a prescription drug [35].

A prescription has several parts. There are:

- The superscription (or heading) with the symbol R or Rx which stands for the word Recipe, meaning (in Latin) to take;

- The inscription which contains the names and quantities of the ingredients;

- The subscription or directions for compounding the drug; and

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- The signature which is often preceded by the sign s. standing for signa, mark, giving the directions to be marked on the container [36].

3.5 Over-the-Counter (OTC) Drugs

These are products you can buy without a doctor's prescription. These medicines have a low risk of side effects when they are used occasionally by healthy adults. Some people may be more likely to have side effects or other problems from using OTC products [37].

Likewise as defined in the Philippine guidelines, non-prescription or over-the-counter (OTC) drugs are drugs that may be dispensed even without a written order of a validly-registered physician, dentist or veterinarian in duly licensed drug outlets. When dispensing OTC drugs without a doctor's prescription, the pharmacist shall give the necessary information and direction for use of the drug [38].

Criteria for Classification as OTC Drug:

For a drug product to be classified as OTC, it shall meet the following general criteria:

1. The drug product is time-tested and has undergone thorough investigation and extensive clinical use;

2. The drug product is recognized to contain active ingredient (s) with proven safety and efficacy (wide margin of safety and high therapeutic index) even without professional supervision as proven by adverse drug reaction (ADR) monitoring; and

3. The drug product is neither with bioequivalence problem (List B) nor classified as prohibited or regulated by the Dangerous Drugs Board (List A) or as internationally controlled drug product by the International Narcotics Control Board (INCB). [39]

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3.6 Expert System

An expert/knowledge-based system is *designed to mimic the decision-making ability*. The specific task of an expert/knowledge-based system is to be an alternative source of decision-making ability for organizations to use; instead of relying on the expertise of just one—or a handful—of people qualified to make a particular decision. An expert/knowledge-based system attempts to capture the reasoning of a particular person for a specific problem. Usually expert/knowledge-based systems are designed and developed to capture the scarce, but critical decision-making that occurs in many organizations. Expert/knowledge-based systems are often feared to be "replacements" for decision makers, however, in many organizations; these systems are used to "free up" the decision-maker to address more complex and important issues facing the organization [40].

Types of Expert System:

- Rule based
- Object oriented
- Logic based
- Induction based
- Hybrid systems [41].

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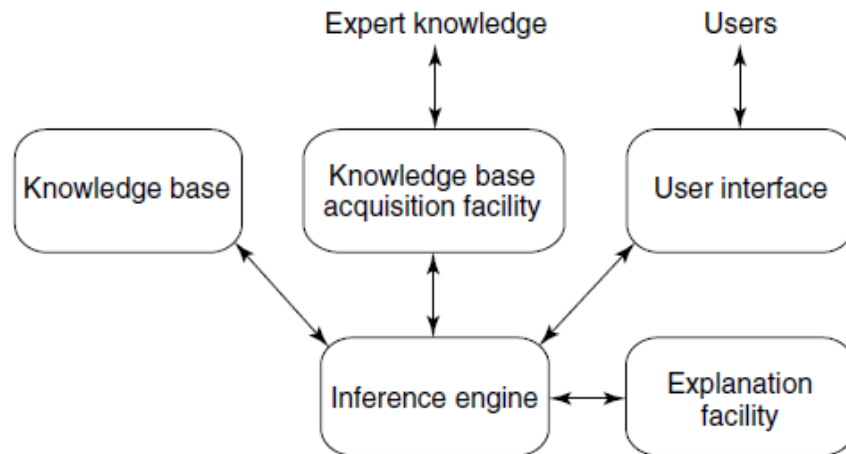
Figure 1. Shows the architecture of a simple expert system[42]

3.7 Rule-based Expert System

Rule-based programming is one of the most commonly used techniques for developing expert systems. A rule-based expert system consists of a set of rules that can be repeatedly applied to a collection of facts [43].

Conventional rule-based expert systems use human expert knowledge to solve real-world problems that normally would require human intelligence. Expert knowledge is often represented in the form of *rules* or as *data* within the computer. Depending upon the problem requirement, these rules and data can be recalled to solve problems. Rule-based expert systems have played an important role in modern intelligent systems and their applications in strategic goal setting, planning, design, scheduling, fault monitoring, diagnosis and so on [43].

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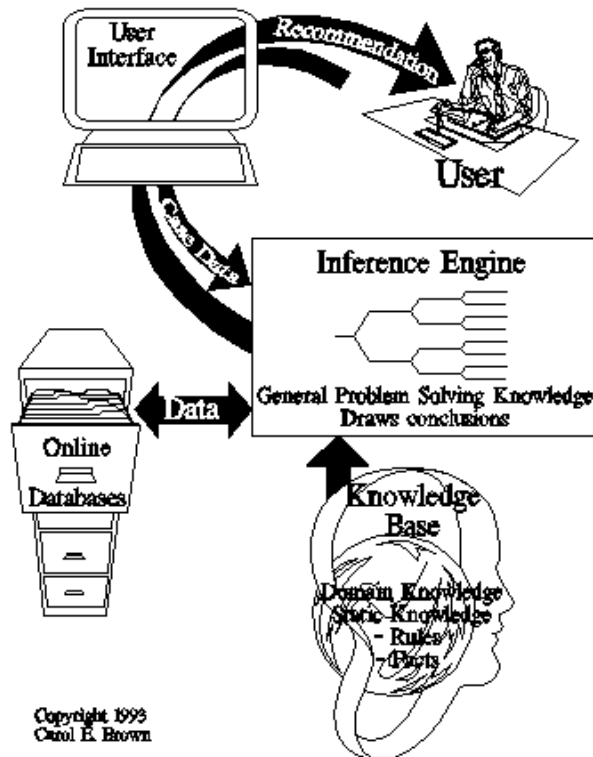
Figure 2. Shows the structure of Rule-Based Expert Systems [44]

3.8 Information System

It is an integrated set of components for collecting, storing, processing, and communicating information. Business firms, other organizations, and individuals in contemporary society rely on information systems to manage their operations, compete in the marketplace, supply services, and augment personal lives. For instance, modern corporations rely on computerized information systems to process financial accounts and manage human resources; municipal governments rely on information systems to provide basic services to its citizens; and individuals use information systems to study, shop, bank, and invest [45].

In a broad sense, the term Information Systems (IS) refers to the interaction between processes and technology. This interaction can occur within or across organizational boundaries. An information system is not only the technology an organization uses, but also the way in

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which the organizations interact with the technology and the way in which the technology works with the organization's business processes. Information systems are distinct from information technology in that an information system has an information technology component that interacts with the processes components [46].

3.9 Database Management System (DBMS)

It is software that controls the organization, storage, retrieval, security and integrity of data in a database. It accepts requests from the application and instructs the operating system to transfer the appropriate data. DBMSs may work with traditional programming languages or they may include their own programming language for application development. DBMSs let information systems be changed more easily as the organization's requirements change. New categories of data can be added to the database without disruption to the existing system. Adding a field to a record does not require changing any of the programs that do not use the data in that new field [47].

3.9.1 Data Security

The DBMS can prevent unauthorized users from viewing or updating the database. Using passwords, users are allowed access to the entire database or a subset of it known as a "subschema." For example, in an employee database, some users may be able to view salaries while others may view only work history and medical data [47].

3.9.2   Data Integrity

The DBMS can ensure that no more than one user can update the same record at the same time. It can keep duplicate records out of the database; for example, no two customers with the same customer number can be entered [47].

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3.9.3 Interactive Query

A DBMS provides a query language and report writer that lets users interactively interrogate the database. These essential components give users access to all management information as needed [47].

3.9.4 Interactive Data Entry and Updating

A DBMS typically provides a way to interactively enter and edit data, allowing you to manage your own files and databases. However, interactive operation does not leave an audit trail and does not provide the controls necessary in a large organization. These controls must be programmed into the data entry and update programs of the application [47].

This is a common misconception about using a desktop computer DBMS. Creating lists of data for a user's own record keeping is one thing. However, although complete information systems can be developed with such software, it cannot be done without understanding how transactions and files relate to each other in a business system. In addition, some type of programming is required, whether at a graphical drag and drop level or by using traditional languages [47].

3.9.5 Data Independence

When a DBMS is used, the details of the data structure are not stated in each application program. The program asks the DBMS for data by field name; for example, a coded equivalent of "give me customer name and balance due" would be sent to the DBMS. Without a DBMS, the programmer must reserve space for the full structure of the record in the program. Any change in data structure requires changing all application programs [47].

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3.9.6 Database Design

A business information system is made up of subjects (customers, employees, vendors, etc.) and activities (orders, payments, purchases, etc.). Database design is the process of organizing this data into related record types. The DBMS that is chosen is the one that can support the organization's data structure while efficiently processing the transaction volume. Organizations may use one kind of DBMS for daily transaction processing and then move the detail to another DBMS better suited for random inquiries and analysis. Overall systems design decisions are performed by data administrators and systems analysts. Detailed database design is performed by database administrators [47].

3.9.7 Client-Server Architecture

The system will use the client-server architecture. Client/server describes the relationship between two computer programs in which one program, the client, makes a service request from another program, the server, which fulfils the request. Although the client/server idea can be used by programs within a single computer, it is a more important idea in a network. In a network, the client/server model provides a convenient way to interconnect programs that are distributed efficiently across different locations [48].

3.10 Definition of Terms

3.10.1 **MIMS Reference System**- is the hallmark of drug information for over 40 years in Asia-Pacific. It is the most advanced, complete and up-to-date information source on available products [49].

3.10.2 **Chief Complaint (CC)** - a subjective statement made by a patient describing the most significant or serious symptoms or signs of illness or dysfunction that caused him or her to seek health care. It is used most often in a health history [50].

3.10.3 **Active Ingredient -** is the chemical component responsible for the claimed therapeutic effect of the pharmaceutical product [51].

3.10.4 **Brand Name** - is the proprietary name given by the manufacturer to distinguish its product from those of competitors [51].

3.10.5 **Generic Drugs -** are drugs not covered by patent protection and which are labelled solely by their international non-proprietary or generic name [51].

IV. DESIGN AND IMPLEMENTATION

4.1. Entity Relationship Diagram

The entity relationship diagrams in figure 3 shows that the system will be composed of entities and association among entity types. The rule-based expert system ERD is composed of 5 entities namely, HEALTH_CONCERN, RULE, ADVICE, MEDICATION and HEALTHCONCERN_MEDICATION while the tutorial ERD is composed of 2 entities namely, TUTORIAL and ASSESSMENT. PharmExSys has a total of 7 entities. Each entity of the ERDs has an equivalent relational table and has their own attributes dependent on their role and relationship between entities. (See Figures 4-10).
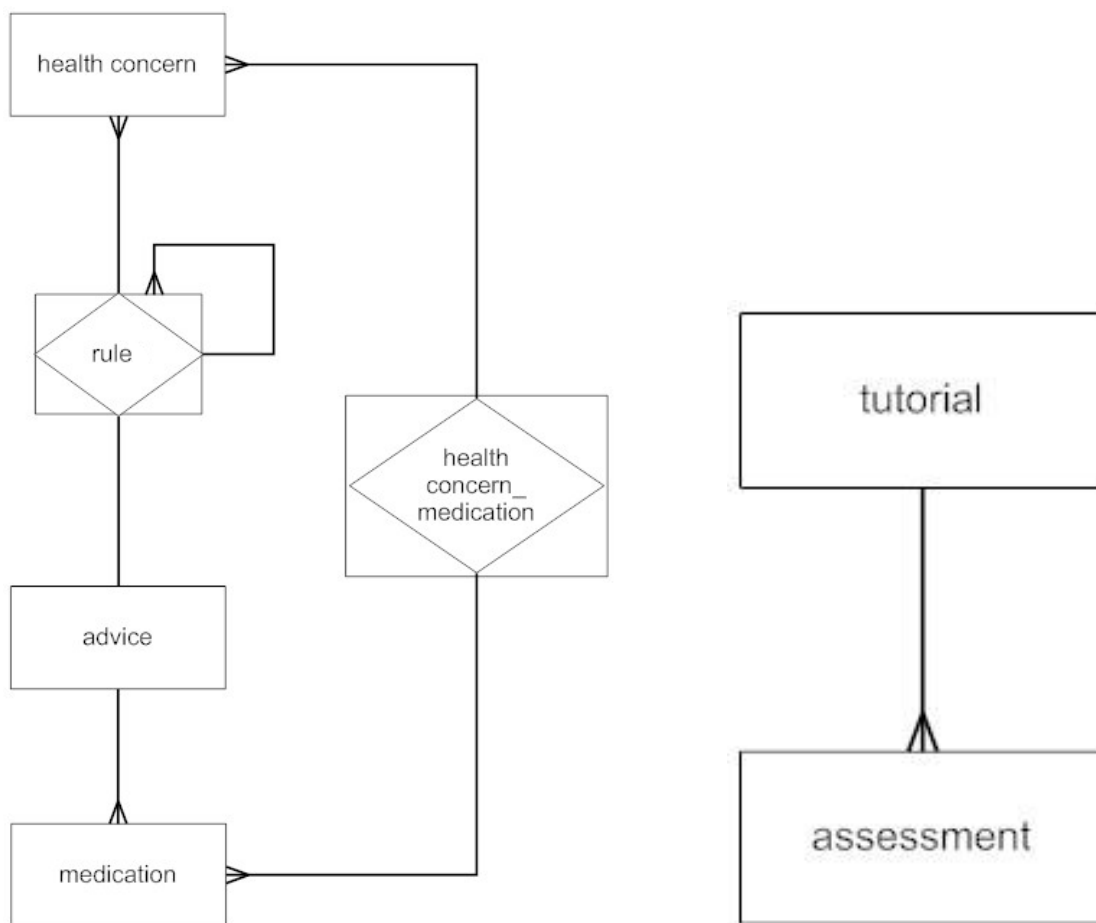
Figure 3. Entity Relationship Diagram, PharmExSys
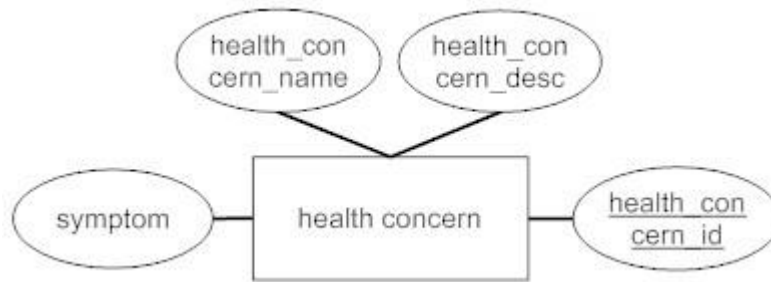
Figure 4. Health_concern Table, PharmExSys
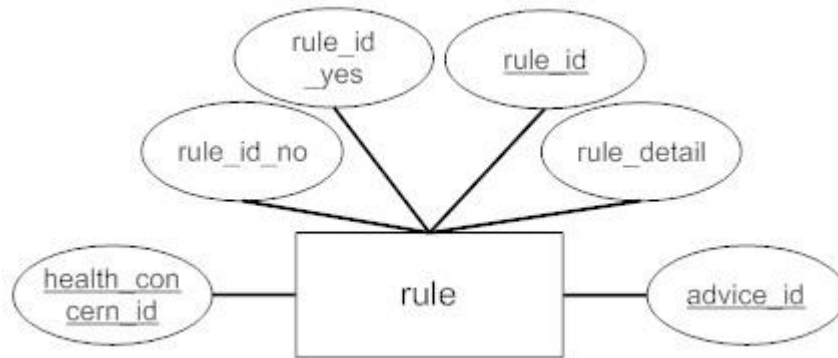
Figure 5. Rule Table, PharmExSys

Figure 6. Advice Table, PharmExSys
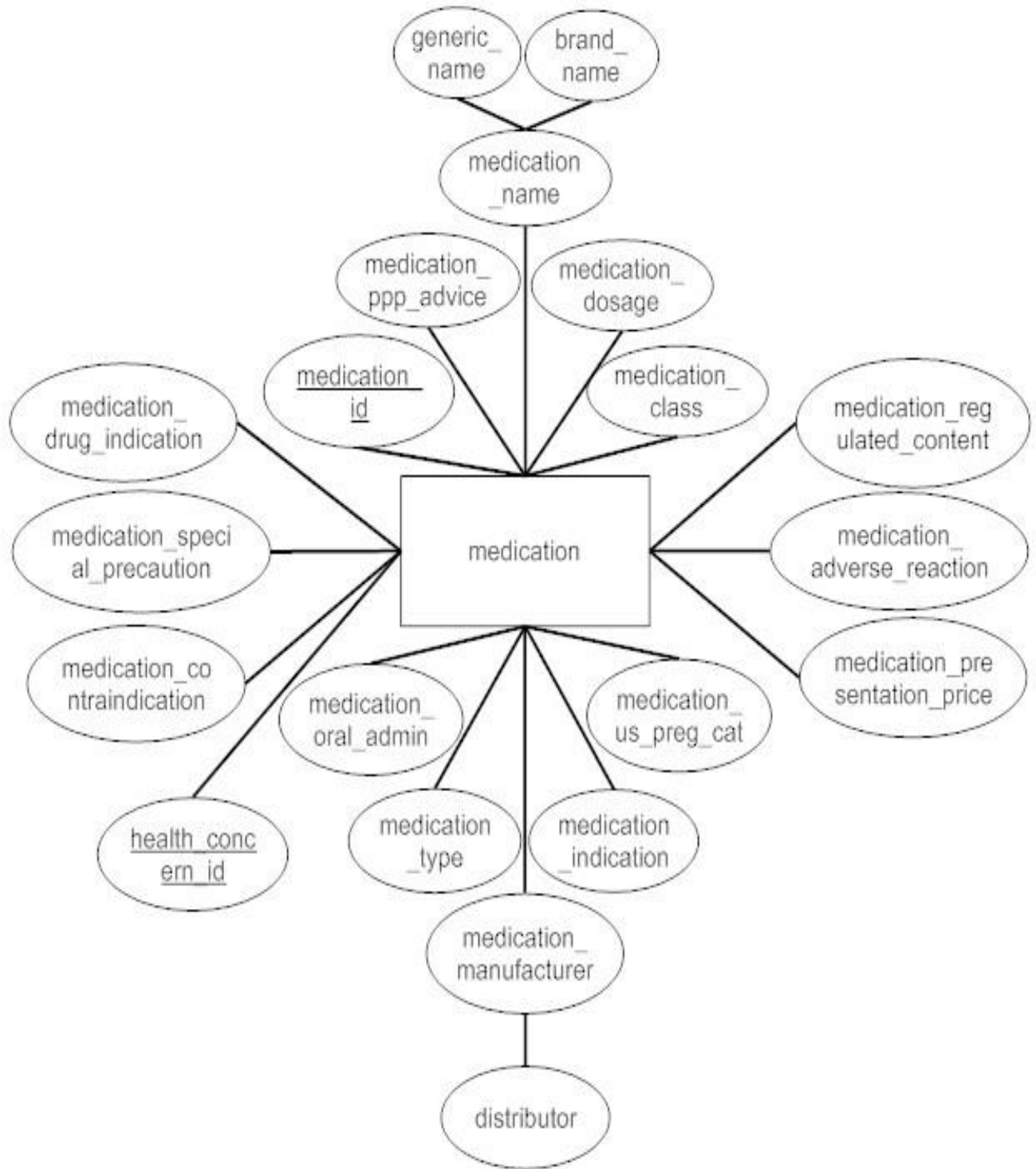
Figure 7. Medication Table, PharmExSys

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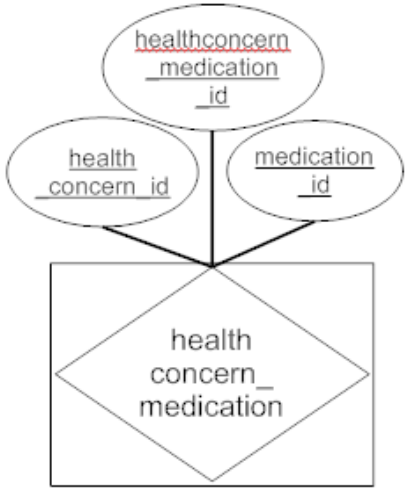
Figure 8. Healthconcern_medication Table, PharmExSys
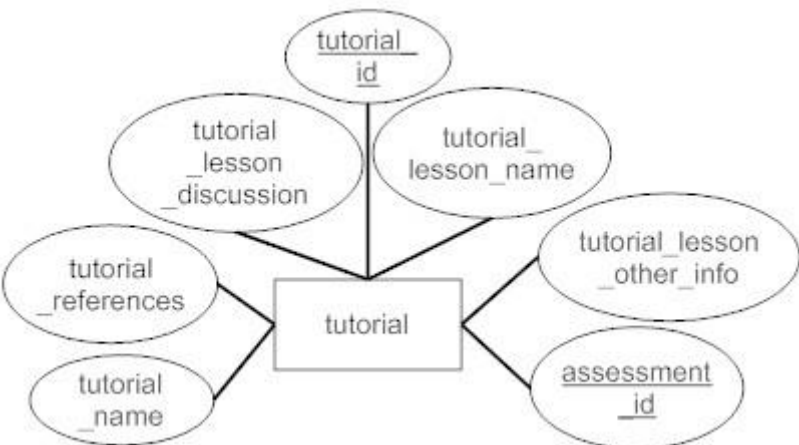
Figure 9. Tutorial Table, PharmExSys

Figure 10. Assessment Table, PharmExSys

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4.2   Database Table

The database table consists of the 7 entities in the ERD (Figure 1) as tables. Each table

has their corresponding attributes and their definitions. Primary keys are underlined.

HEALTH CONCERN – contains general information about health concerns

Datafield	Data Type	Description
health_concern_id	int(10)	System generated unique health concern id
health_concern_name	varchar(300)	Name of the specific health concern
health_concern_desc	longtext	Information about a health concern
health_concern_other_info	longtext	Other information about health concern
symptom	longtext	Health concern symptoms

RULE – contains general information about the rules for generating patient advice and drug

recommendation

Datafield	Data Type	Description
rule_id	int(10)	System generated unique rule id
health_concern_id	int(10)	Identifies the rules to be executed for each health concern
advice_id	int(10)	Identifies the advice to be generated by the rules
rule_detail	longtext	Description of the rule
rule_id_yes	int(10)	'YES' answer to a rule to identify id of next rule

rule_id_no	int(10)	'NO' answer to a rule to identify id of next rule

ADVICE – contains general information about the patient advice other than the recommended

drug

Datafield	Data Type	Description
patient_advice_id	int(10)	System generated unique patient advice id
advice_details	longtext	Details of the patient advice
Treatment_option	longtext	Details of treatment options

MEDICATION – contains general information about pharmaceutical drugs

Datafield	Data Type	Description
medication_id	int(10)	System generated unique advice id
healh_concern_id	int(10)	Identifies the indication of a medication to a health concern
medication_name	longtext	Name of medication (branded or generic)
medication_class	longtext	Classification where certain drug belongs
medication_type	longtext	Type of medication (Rx or OTC)
medication_manufacturer	longtext	Name of the manufacturer of a certain drug
drug_regulated_content	longtext	Information on drug regulated

		contained in the drug
medication_indication	longtext	Information about indications
medication_dosage	longtext	Information on the dosages of the drug
medication_oral_admin	longtext	Information on administering a certain drug
medication_ppp_advice	longtext	Information on Pre-&Post-Prandial Advice
medication_contraindication	longtext	Information on contraindications of a certain drug
medication_special_precaution	longtext	Special precaution of a certain drug
medication_adverse_reaction	longtext	Information on adverse reactions of a certain drug
medication_drug_indication	longtext	Information on drug indication
medication_presentation_price	longtext	Information on packaging and price of a certain drug
medication_us_preg_cat	longtext	Informaation on US FDA Pregnancy Catalogue

HEALTHCONCERN_MEDICATION – associative entity from HEALTH_CONCERN and

MEDICATION Tables

Datafield	Data Type	Description
healthconcern_medication_id	int(10)	System generated unique health_concern_medication id
health_concern_id	int(10)	System generated unique health_concern id
medication_id	int(10)	System generated unique medication id

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TUTORIAL – contains general information about Pharmacology tutorial

Datafield	Data Type	Description
tutorial_id	int(10)	System generated unique tutorial id
assessment_id	int(10)	System generated unique assessment id
tutorial_name	longtext	Name of the tutorial topic
tutorial_lesson_name	longtext	Lessons covered in a topic
tutorial_lesson_discussion	longtext	Discussion of the lesion in a topic
tutorial_other_info	longtext	Additional information on a topic
tutorial_references	longtext	Citations of references for each tutorial

ASSESSMENT – contains general information about the assessment module for the course

Datafield	Data Type	Description
assessment_id	int(10)	System generated unique assessment id
tutorial_id	int(10)	System generated unique tutorial id
questions	longtext	Set of questions
answer_key	longtext	Answer and solution to the types of assessment

4.3 Context Diagram

The main users of the system will be the pharmacy students, pharmacy aides/technicians/trainees, consumers and the system administrator (i.e. professor or pharmacist). Basically, any user can use the system to generate patient advice, particularly drug

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recommendation. Users can also browse the system for additional information on a health concern or medication. As for the system administrator they can access all the functionalities with that of an ordinary user. Registered user (i.e. professor or pharmacist) can add new medications with the corresponding health concern and classification and other necessary information that intends to expand the scope of medications catered by the system. They can also update existing medications in the system. Furthermore, the registered user or the administrator is the one who can create and edit concepts, questions or problems in the assessment module of the system. Answers and solutions in the assessment should also be provided by the registered user. The system administrator is the overall in-charge in the management of the system. These are shown in the Context Diagram seen in Figure 11.
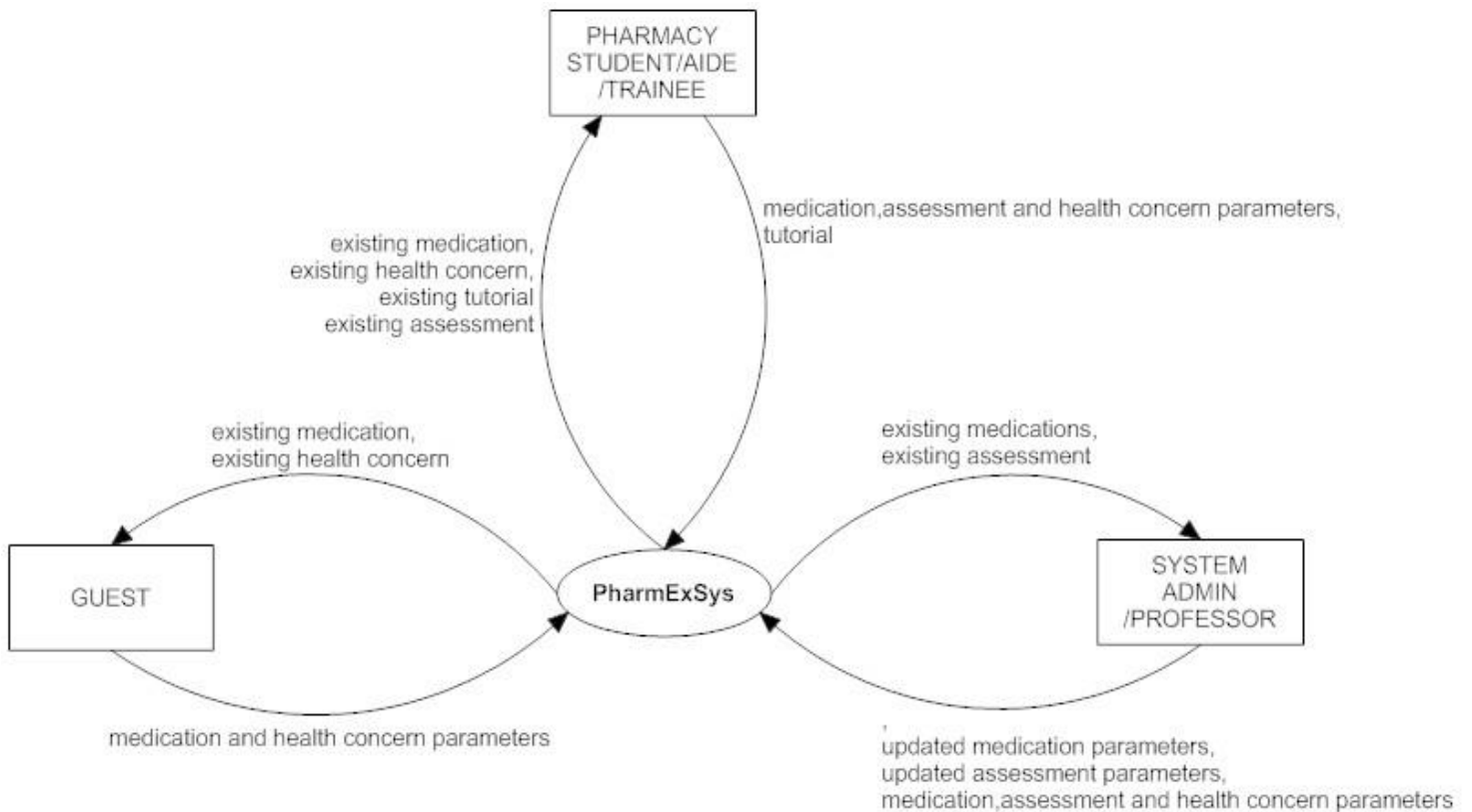
Figure 11. PharmExSys Context Diagram, PharmExSys

`

4.4 Data Flow Diagram

The top-level data flow diagram of the PharmExSys is shown in Figure 12. The diagram shows 5 main processes of the system. Registered user need to login first, for authentication and verification. There are only two main types of users, the guest user and the system administrator can manage the system.
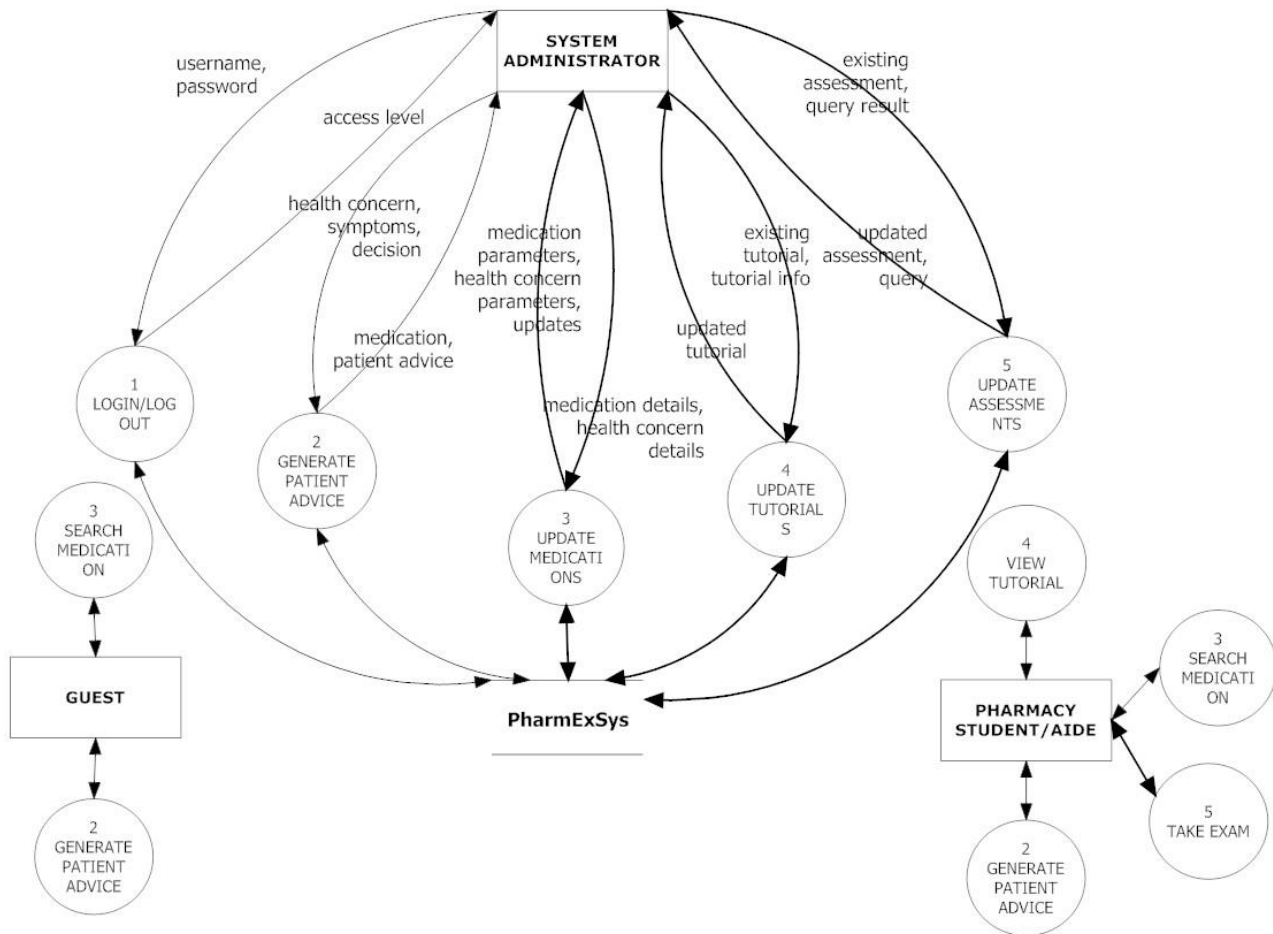
Figure 12. Top Level Data Flow Diagram, PharmExSys

`

The guest users (i.e. patient) can view health concern and generate patient advice. They can also browse for medications. As for the pharmacy students, trainees and aides/technicians they can also view health concern and generate patient advice. They can also browse for medications; moreover, they can take the tutorial for pharmacology and take an exam to assess his/her knowledge. And for the system administrator he/she can access all of the functions of all the above mentioned users and a couple of new administrative functions. The system administrator can update medications. He/she can add a new medication, edit medication information and delete medication entries. The administrator can also update tutorials. He/she can add a new tutorial, edit tutorial information and delete tutorial entries. At the same time the system administrator has also the control to update assessment. He/she can add new questions including its answer and choice, edit question details, and delete an assessment. The sub explosions of these processes are illustrated in Figures 13-16.
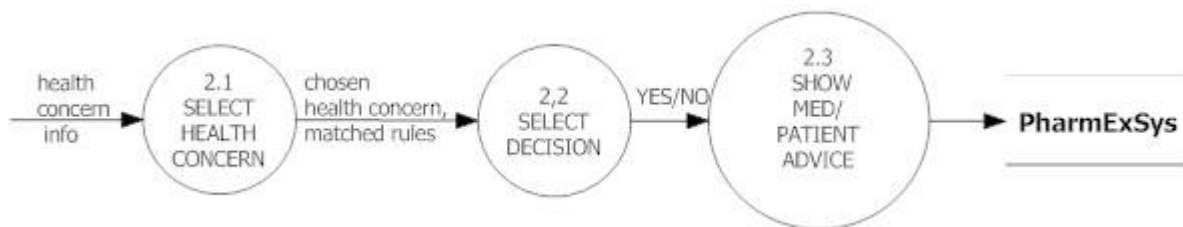
Figure 13. Sub-explosion of Generate Patient Advice Function, PharmExSys
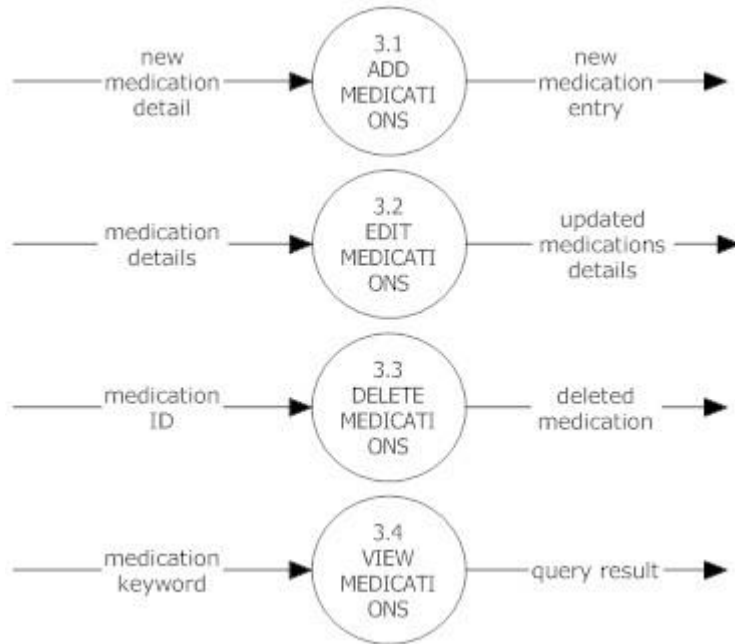
Figure 14. Sub-explosion of Update Medications Function, PharmExSys
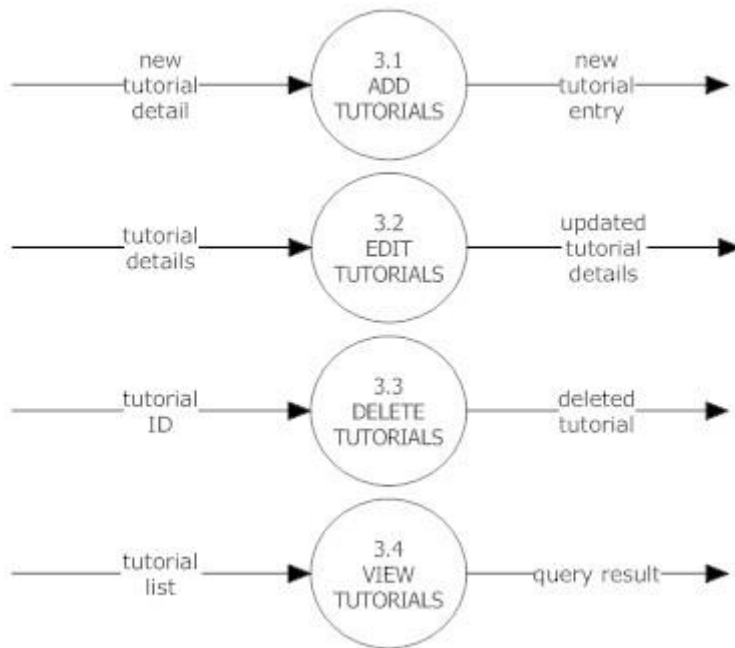
Figure 15. Sub-explosion of Update Tutorials Function, PharmExSys

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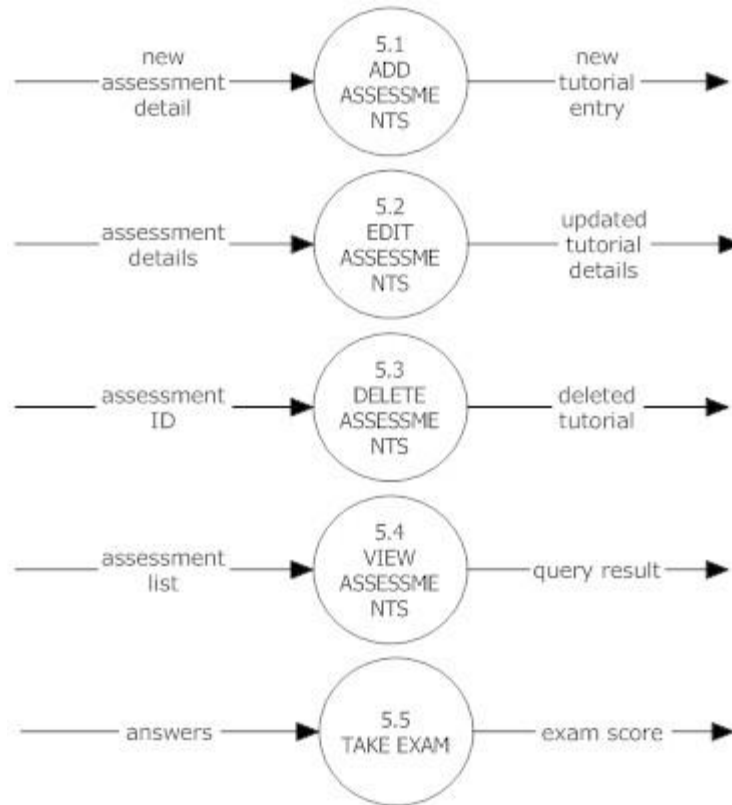
Figure 16. Sub-explosion of Update Assessment Function, PharmExSys

4.5   System Requirements:

a. The server machine:

- Hardware Specifications

    o   Processor of at least 500 MHz

    o   RAM should be at least 256MB

- Software Specifications

    o   Operating System should be at least Microsoft 98

    o   The following applications should be installed for the system to run:

        ▪   PHP 4.1.1 or later

        ▪   Apache HTTP Server 1.3 or later

`

- MySQL 4.0 or later

    OR

- XAMPP 1.6 or later

b. The Client machine:

- Hardware Specifications

    o Processor of at least 500 MHz

    o RAM should be at least 128MB

- Software Specifications

    o Operating System should be at least Microsoft 98

    o Internet browser should have JavaScript enabled

`

V. Results

5.1 Home Page

The PharmExSys Homepage (Figure 17) provides an overview of the system and other pertinent concepts such as pharmacology and expert system. The Homepage also includes the Login function for the administrator.
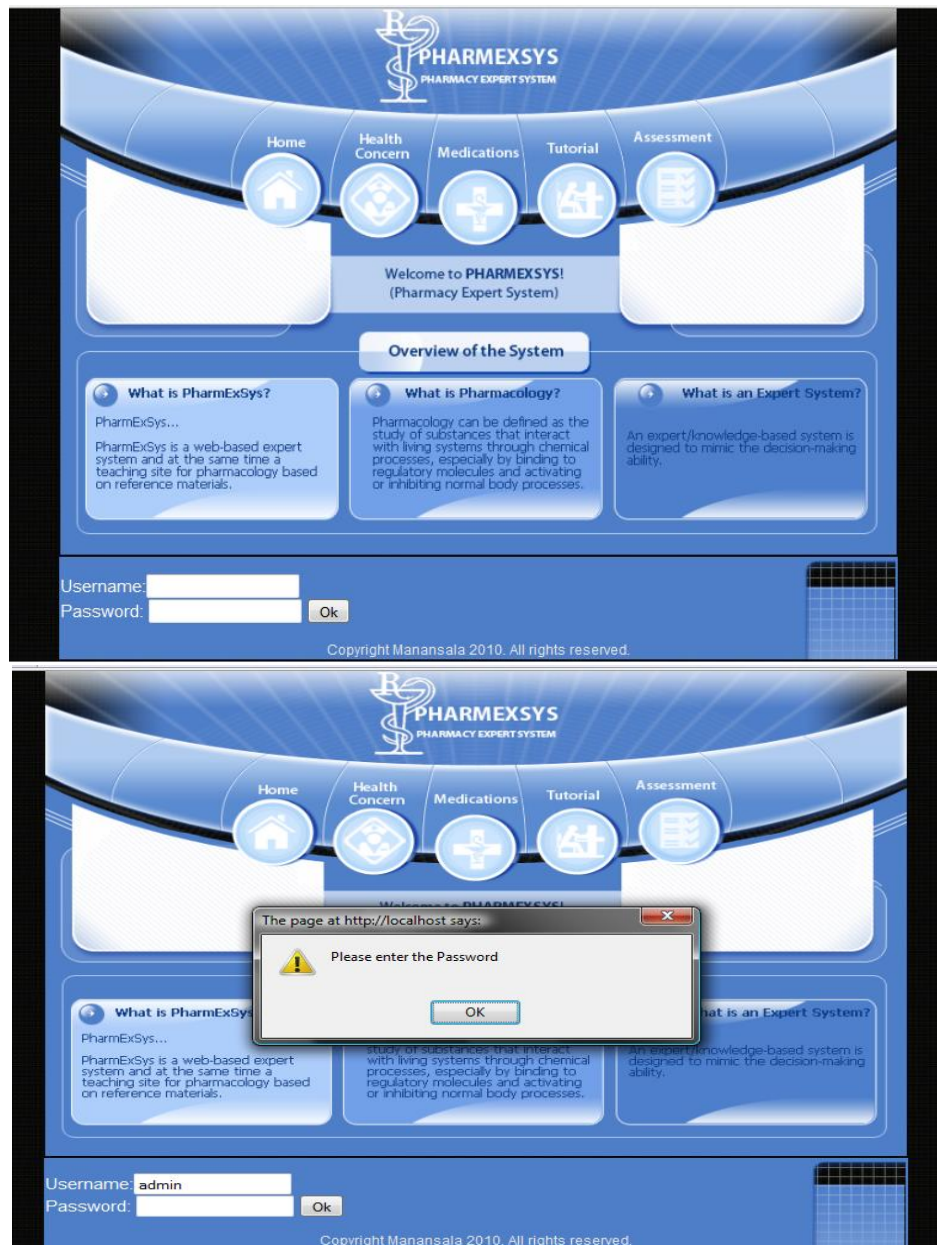
Figure 17. Main Page, PharmExSys

5.2 Health Concern Page

The health concern page generates the patient advice and treatment options of the user based on his/her input and the rules implemented in the system. It also provides the information and its symptoms about a certain health concern. The list of health concerns available in the system is provided in a drop-down list for easier access. (See Figure 18)
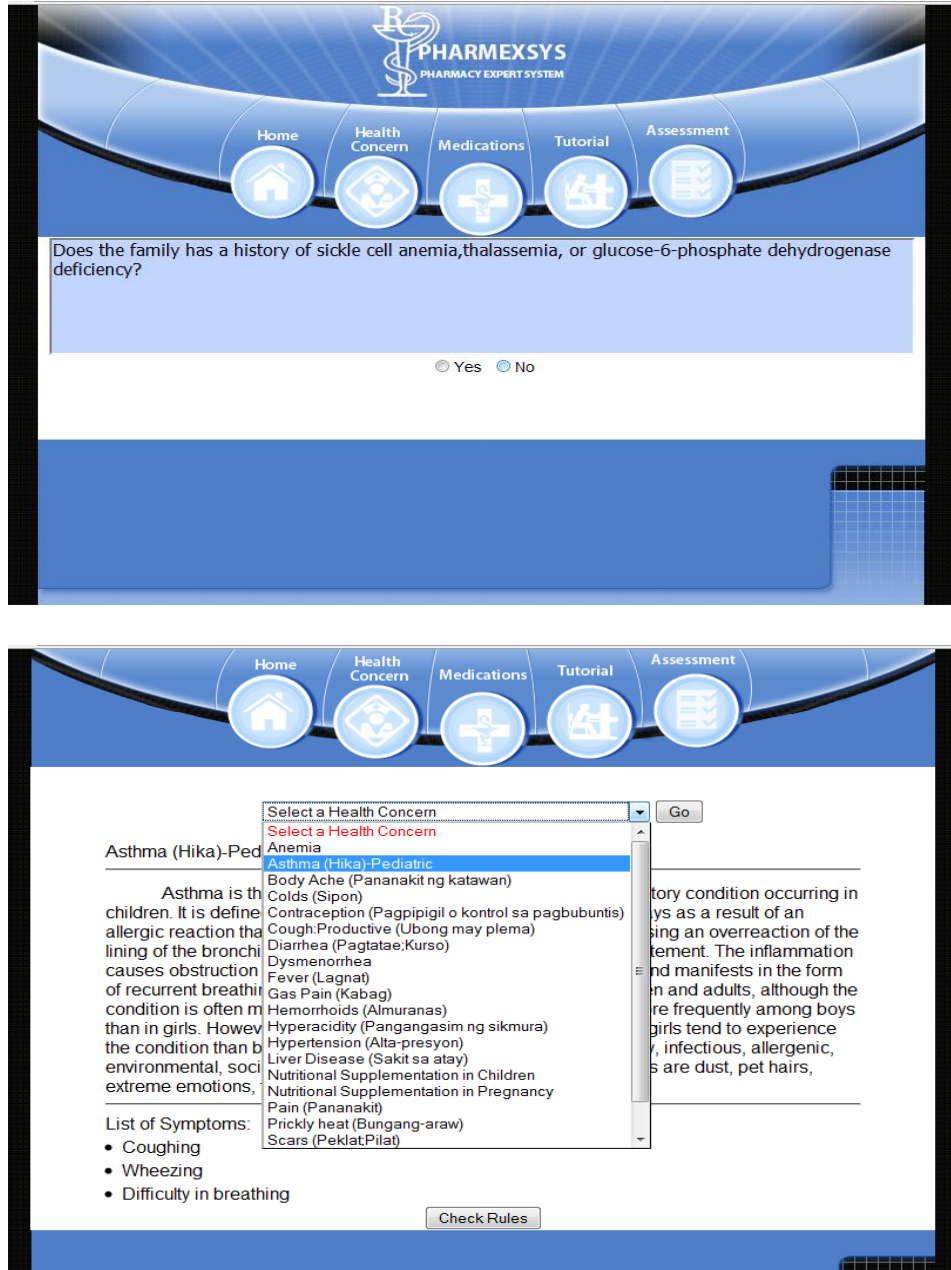
Figure 18. Health Concern Page, PharmExSys

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5.3 Medications Page

The medications page provides medication information (MIMS Pharmacy Guide Format). The users can also search for a certain medication by inputting a keyword (Figure 19); furthermore, the user can narrow down his/her search function by any of the 5 categories: Medication name, class, type, common, indication and manufacturer (Figure 20). The user can also list all the medications available in the system and to view them individually. And for the system administrator, he/she has the function to add, edit and delete medications (Figure 21).
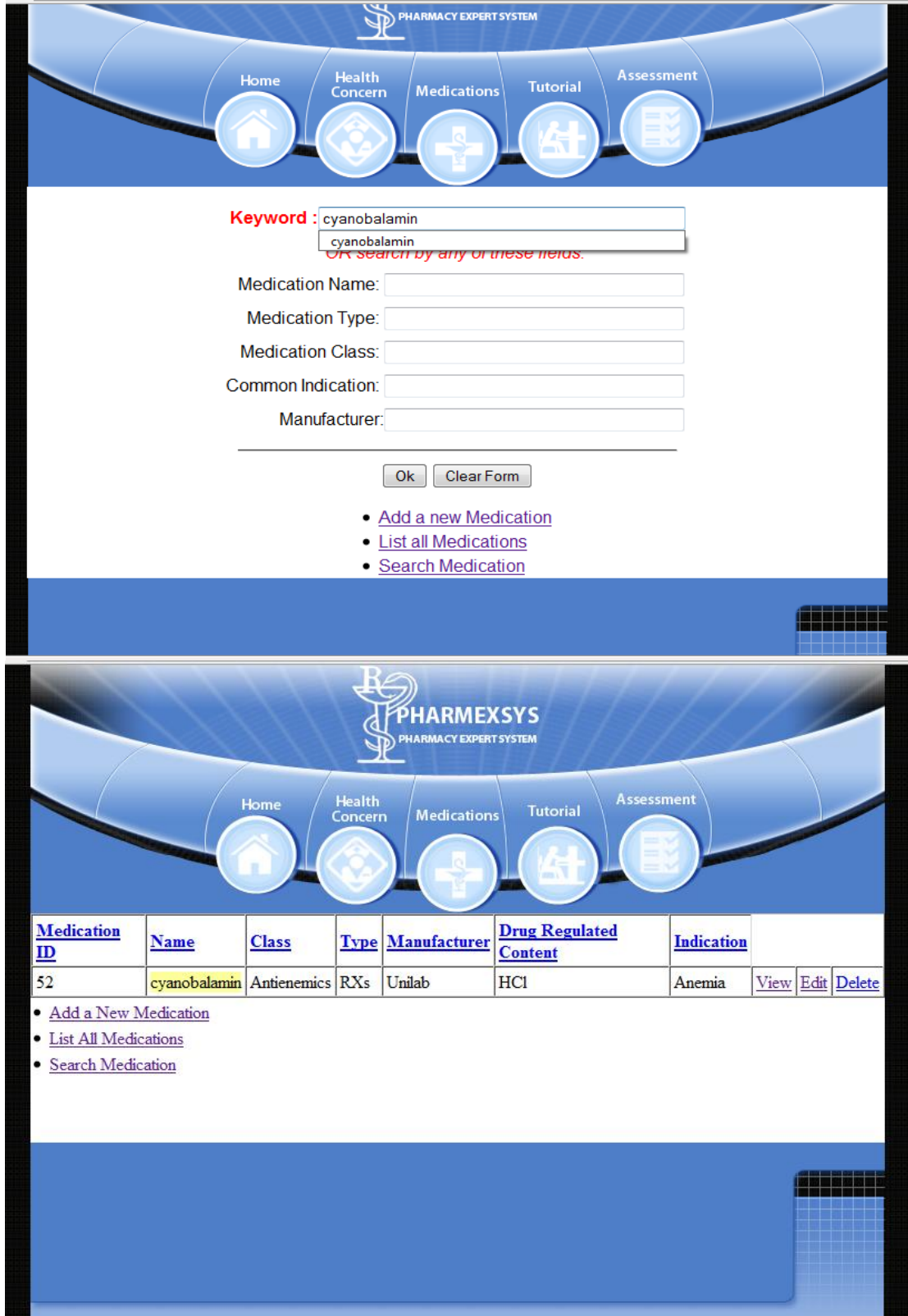
Figure 19. Medications Page, PharmExSys

Medication Name:	cyanobalamin
Medication Class:	Antienemics
Medication Type:	RXs
Manufacturer:	Unilab
Drug Regulated Content:	HCl
Medication Indication:	Anemia
Medication Dosage:	12 mg per day
Oral Administration:	Before eating
PPP Advice:	None
Medication Contraindication:	Aspirin
Special Precaution:	Do not drink without water
Adverse Reaction:	Fever
Drug Indication:	None
Presentation/Price:	30 x 500
US Pregnancy Catalogue:	A
Go Back	

Select a Health Concern

Medication Name : Cyanobalamin

Medication Clasification :

Type :

Manufacturer :

The page at http://localhost says:

⚠ Please enter the Medication Class

OK

Contraindication :

Special Precaution :

Adverse Reaction :

Drug Indication :

Presentation/Price :

US Preg Cat :

Add Medication   Clear Form

Figure 20. Medications Page – Category, PharmExSys

Figure 21. Medications Page – System Admin, PharmExSys

5.4 Tutorial Page

The tutorial page provides tutorial lessons in the field of pharmacology. The list of topics in the tutorial is shown on a different frame for easier navigation or browsing of tutorials. The administrator has the function to add, edit and delete tutorials (see Figures 22-23).

Figure 22. Tutorial Page – User, PharmExSys

Tutorial Name: Introduction to Drug Action

Lesson: Disease Classification:

Disease Classification:

A disease is a condition of impaired health resulting from a disturbance in the structure or function of the body. Diseases may be classified into the following major categories:

1) Infections caused by viruses, ricketsia, bacteria, fungi, protozoa and worms
2) Allergic diseases caused by antigens and foreign substances
3) Metabolic disorders caused by defects in the body`s ability to carry out normal reactions - these may be hereditary, deficiency, and congenital defects
4) Cancer
5) Toxic diseases caused by poisons
6) Psychosomatic and mental diseases

Chemotherapy, broadly defined, means the treatment of any disease by chemicals including infectious and non-infectious diseases. The original definition applied only to drugs which were used in the treatment of infectious diseases. The proper term for the treatment of non-infectious diseases is pharmacodynamics.

Confirm Record Deletion

Tutorial ID : 78

Tutorial Name : Introduction to Drug Action

Lesson Name : Disease Classification:

Discussion :

Disease Classification:

A disease is a condition of impaired health resulting from a disturbance in the structure or function of the body. Diseases may be classified into the following major categories:

Other Info :

One major problem of pharmacology is that no drug produces a single effect. The primary effect is the desired therapeutic effect. Secondary effects are all other effects beside the desired effect which may be either beneficial or harmful. Drugs are chosen to exploit differences between normal metabolic processes and any abnormalities which may be present. Since the differences may not be very great, drugs may be nonspecific in action and alter normal

References :

drugs.com

If you are sure you want to delete the above record, please press the delete button below.

Delete from Tutorial

Go Back

Figure 23. Tutorial Page – System Admin, PharmExSys

`

5.5 Assessment Page

The assessment page (Figures 24-27) provide an evaluation tool for the users to measure his/her knowledge on pharmacology. The questions are generated randomly and are added by the system administrator. The administrator can list and view assessments. Also the system administrator has the function to edit and delete assessments. Assessments are in the form of multiple choice types of questions. The result or grade of an examinee is also shown by the system.

Figure 24. Main Assessment Page, PharmExSys

Q: Concerning oral administration -- disadvantages?
○ least economical
○ drug taken orally may cause emesis
○ drug taken orally may be destroyed by gastric acidity
○ drug taken orally may be metabolized by gastrointestinal flora
○ drug taken orally may be in consistently absorbed due to the presence of food
Q: Typical properties of carrier-mediated drug transport:
○ non-saturable
○ active transport
○ energy requiring
○ inhibitable
Q: Drug with this ionization property most likely to diffuse from intestine (pH 8.4) to blood (pH 7.4)
○ weak acid (pKa 7.4)
○ weak base (pKa 8.4)
○ weak acid (pKa 8.4)
○ weak base (pKa 6.4)

ID	QUESTIONS		
86	Most common mechanism of drug permeation?	Edit	Delete
85	Term having to do with drug actions on the body?	Edit	Delete
87	Drug delivery method LEAST suitable for long term (days to weeks) slow release.	Edit	Delete
88	Drug with this ionization property most likely to diffuse from intestine (pH 8.4) to blood (pH 7.4)	Edit	Delete
89	Dramatic decrease in systemic availability of a drug following oral administration is most likely due to:	Edit	Delete
90	Consider the following information about drug X: D = 300 mg; T =12 h; F = 0.70 (70% absorption);Vd = 40 L; half-life = 15 hours: What is the Css (concentration at steady-state) for drug X? (note dosing interval is now 12 hours)	Edit	Delete
100	Typical properties of carrier-mediated	Edit	Delete

Figure 25. Assessment Page – Questions, PharmExSys
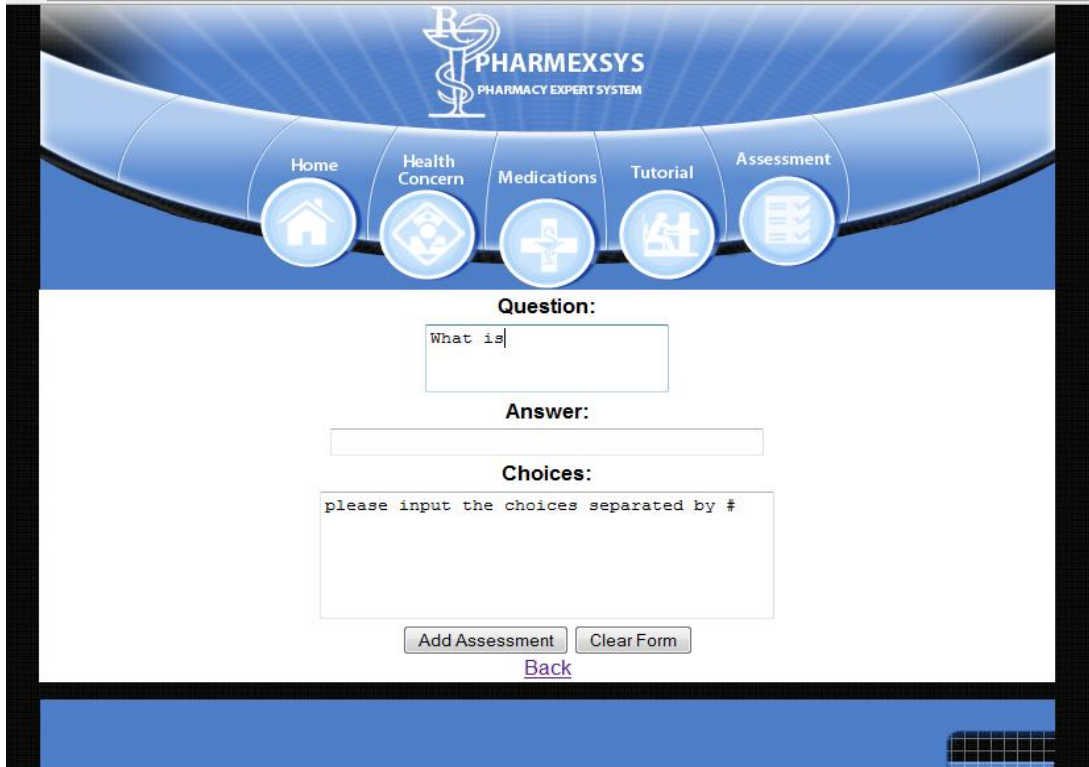
Figure 26. Assessment Page – Questions (2), PharmExSys

Figure 27. Assessment Page – Update Assessment, PharmExSys

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VI. Discussion

PharmExSys is a web-based expert system to aid in selecting medications and at the same time an educational resource tool for students taking up pharmacology subject. Consequently, the system is expected to have many users such as pharmacy professors, students/ trainees and even pharmacy aides/technicians. The data existing in the expert system part of the system are based on the 2010 edition of MIMS Annual Pharmacy Guide – Philippine Edition. And for the information and data provided in the tutorial, can come from any reliable source on the subject of pharmacology. Guest users can use the system to browse for information on certain health concerns and validate its symptoms. Also based on that selected health concern the users can simulate the rules of the expert system to generate patient advice. The patient advice is divided into three divisions such as a) the general patient advice b) treatment options - to guide in selecting the appropriate medication and c) a list of medications appropriate for that health concern.

Guest users can then view the details of a medication (MIMS Pharmacy Format). They also have the option to browse the system for all the existing medications in the system's repository of medications. And for easier access, users can search for a certain medication by inputting a keyword and matching it to all the fields of a medication in the system. Users have also the option to narrow-down their search by inputting any of the following keywords (medication name, class, type, indication and manufacturer) to find a match in the system's medication repository. Also, the medications' list allows its users to have a quick view of a certain medication without the need to view the medications separately. The system administrator has all the control in updating the medications in the system. This includes addition of new medications, deletion of medications and they can also edit medication information.

`

Committed changes in the medication information automatically update the medications' list of a certain health concern. The system administrator has limited control over the health concern since they cannot perform updates on the health concern's details and rules.

Moreover, for the tutorial module of the system, its guest users can interactively browse for the available tutorials in the system. The module presents a user-friendly interface that separates the tutorial list to the tutorial information for easier navigation of tutorials. The system administrator has all the control on updating the tutorials. They can add new tutorials based on pharmacology lessons. They can also edit tutorial details and delete tutorials.

As an assessment to a guest user's knowledge on pharmacology he/she can take a graded online exam. The exams questions are in the form of multiple choice type of questions. Exam questions are also generated automatically and randomly in the system's assessment repository. The system administrator has overall control over the management of these assessments. They can add new exam questions including its answer key and choices (separated by '#'). They can also edit assessment details and delete assessment records.

VII. Conclusion

PharmExSys is a web-based expert system to aid the recommendation of medications and also to serve as an educational tool in learning pharmacology. The expert system can be of great help to its users by generating patient advice based on a resource material (MIMS Pharmacy Guide) that is widely used by many pharmacy professionals. The expert system can also be of aid in expediting the decision-making process of generating a patient advice and choosing a medication while avoiding mistakes on the side of pharmacy aide/trainees.

The number of medications available in the market continues to grow. The repository of medications of PharmExSys can be very useful to pharmacy students, trainees and aides in studying medications since it is web-based that would allow its users to easily access trusted medication information (MIMS Pharmacy Guide Format).

The tutorial and assessment module of PharmExSys is important to those who take pharmacology subjects. Since pharmacology is a very broad comprehensive, and complex (pharmacy students take the subject for two semesters), then the system can be a great educational support tool for students.

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VIII.   Recommendation

The improvements identified for the expert system were mainly for the tutorial and assessment modules.

An enhanced or a better view of the tutorial topics can make learning more interactive and holistic. Stimulating and creative approaches to present the topics would surely encourage users. A function to track user progress and aptitude can be implemented to better assess the tutorial needs of a user and also measure the effectiveness of tutorial topics. A wide range of assessment types can also greatly improve user experience.

In summary, the tutorial and assessment modules can significantly improve its purpose by making the modules dynamic and comprehensive – this entails gathering feedbacks from pharmacy students and trainees.

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X. Appendix

Appendix A – Sample entry of a Medication in MIMS Pharmacy Guide

PHAREX ERYTHROMYCIN   Rx
Pascual/Pharex [Zuellig]
C: Erythromycin (Tab: stearate, Susp: ethylsucci-nate)
I: Upper & lower resp tract, skin & soft tissue infection of mild to moderate severity, other infections caused by organisms susceptible to erythromycin.
D: *Adult* 250-500 mg 6 hrly. *Childn* 30-50 mg/kg body wt/day in 2 divided doses.
A: Susp: ± Ⓨ Tab: ×Ⓨ : Best taken on an empty stomach 1 hr before or 2 hr after meals. May be taken w/ meals to reduce GI discomfort.
CI: Hypersensitivity.
SP: Impaired liver function.
AR: Abdominal & intestinal discomfort, allergic reactions.
DI: May potentiate action of carbamazepine, cyclosporin, theophylline & warfarin. Ergotamine increases risk of peripheral ischemia.
P/P: Tab 250 mg x 100's (P858.50). 500 mg x 100's (P1,567.50). **Susp** 200 mg/5 mL x 60 mL (P125.50).
US FDA Preg Cat, ♀ : B

Appendix B – Sample entry of a health concern with flowchart as a guide for giving patient advice and/or treatment options in a MIMS Pharmacy Guide.

A18

Anemia ← this

Anemia is the most common blood disorder and occurs when the concentration of hemoglobin in the blood falls below the normal range for the age and gender of the individual. In addition, the number of red blood cells (erythrocytes) is also decreased. Hemoglobin is the component of red blood cells that carry oxygen from the lungs to the tissues. The most common form of anemia is *iron-deficiency anemia*. Iron is an essential component of hemoglobin and a deficiency of iron in the diet results in low levels of hemoglobin. Other causes of iron-deficiency anemia include poor iron absorption in the body and blood loss. This deficiency usually occurs in women of childbearing age but may also occur in infants, children and adolescents during rapid growth spurts. *Pernicious anemia* is a type of anemia that occurs when a person lacks a substance (intrinsic factor) that is necessary to absorb and process vitamin B12. It is often hereditary and usually occurs in the elderly. *Folic acid-deficiency anemia* is characterized by abnormally large but few red blood cells (*megaloblastic*). Poor diet with alcoholism is the most common cause of folate deficiency. It is present in malabsorption problems, and certain medications (e.g., anticonvulsants) may also cause folic acid deficiency. Symptoms of this type of anemia include weight loss, diarrhea and reduced exercise endurance.

this {

Does the patient complain of the following symptoms:
- Fatigue
- Weakness
- Shortness of breath
- Dizziness or fainting
- Pale skin, including decreased pinkness of the lips, gums, lining of the eyelids, nail beds and palms
- Rapid heart beat (tachycardia)
- Feeling cold

— Yes →

Does the patient have history of any of the following conditions?
- Blood loss (due to injury, surgery, menstruation, inflammatory bowel disease (IBD), abnormal blood clotting)
- Diseases [e.g., cancer (especially gastrointestinal cancer), intestinal parasites, (e.g. hook worm)]
- Medication side effects (e.g., antibiotics, anti-seizure or anti-cancer medicines)
- Poor diet (lack of meat, poultry products, fruits & vegetables in the diet)
- Vitamin or iron deficiencies (no dietary supplement)

— Yes →

Patient may be suffering from Anemia. See Table 1 on *page A19* for interpretation of symptoms.

— Yes →

Refer to a physician for identification of anemia type and appropriate therapy.

The doctor will usually request for CBC which may indicate fewer red blood cells than normal. Other diagnostic tests may include: *blood smear examination, iron tests, hemoglobin electrophoresis, bone marrow aspiration & biopsy, and reticulocyte count.*

No

Does the patient have a family history of sickle cell anemia, thalassemia, or glucose-6-phosphate dehydrogenase deficiency?

— Yes →

Ferrous gluconate + Vitamins & Minerals

Sangobion® Capsule

Your confident choice in Anemia

MERCK

Full product information available upon
Merck, Inc.
24/GT Tower International
6813 Ayala Ave. cor. H.V. dela Costa St.,
Salcedo Village,
1227 Makati City Philippines
Tel. No.: (632) 813-4767

7th edition 2006

Appendix C – Sample of the Patient Advice and Treatment Options in MIMS Pharmacy Guide

Patient Advice

- Eat a balanced diet that includes iron-rich foods, e.g., fruits, lean meat, beans, whole-grain bread and green leafy vegetables.
- Too much iron can be dangerous. Excess iron intake has been associated with an increased risk for cirrhosis, cardiomyopathy, diabetes and certain cancers. Iron supplements should be taken only upon the advice of the physician.
- Foods high in folic acid and vitamin B12 include fish, dairy products, meats, legumes, dark leafy vegetables, oranges and whole grains.
- Consumption of alcohol should be limited and prescribed folic acid supplements should be taken during pregnancy to avoid folic acid-deficiency anemia.
- Make sure to wear shoes or slippers at all times to avoid worm infestations.
- Avoid too much exposure to gasoline products, insecticides, chemicals and other toxic agents as they may also cause anemia.

Dispensing Tips

- Instruct the patient on how to use the medication properly, i.e. dose to take, frequency, manner of usage, etc.
- In cases where anemia has not improved despite medication, *instruct the patient to return to his physician*.
- Discuss PATIENT ADVICE thoroughly for more information on the prevention and management of anemia.

Treatment Options

Antianemics/Pre- & Postnatal Vitamins
- Antianemics are iron-containing preparations given to people who suffer from iron-deficiency anemia. Preparations usually contain supplemental iron salts, e.g. *ferrous sulfate*, *ferrous gluconate* and *ferrous fumarate*.
- Preparations containing *folic acid* and *vitamin B12 (cyanocobalamin)* may be given if anemia is traced back to a deficiency of these nutrients.
- Pre- and postnatal vitamin preparations contain different vitamins and minerals that are essential for pregnant women. Among these nutrients are *iron, folic acid* and *vitamin B12* that are required in the management of anemias common in pregnant women.

Multivitamins/with Minerals
- Multivitamins and minerals provide the necessary nutrition the body needs when it is incapable of producing enough of these essential nutrients on its own. These preparations may contain *iron, folic acid, vitamin B6* and *vitamin B12*. They should only be used as supplements for your daily food intake and not as diet replacements.

Pediatric Vitamins & Minerals
- Some pediatric vitamins and minerals preparations contain *iron, folic acid* and *vitamin B12* that aids in the development of a child's body system and corrects conditions of anemia in children.

Appetite Stimulants
- Some iron-containing appetite stimulants may also help in the management of iron-deficiency anemia.

Infant Nutritional Products
- Iron-fortified formulas and cereals are available for infants and children requiring iron supplementation.

Hematopoietic Agents
- *Epoetin alfa* and *epoetin beta* are recombinant erythropoeitins that are used to treat anemia in chronic kidney failure patients undergoing dialysis. These drugs stimulate the production of red blood cells thereby reducing or eliminating the need for blood transfusions in these patients.

Generics mentioned under Treatment Options may or may not be available or approved for above use in specific countries.

Suggestions for a Good Pharmacist-Drugstore Sales Clerk Relationship

1. Always be punctual and complete your exact time schedule. Consider time for patient care as very valuable.
2. Try to anticipate the needs of the pharmacist without waiting for her specific request for you to perform the task. Give her due respect as befits her rank.
3. Attend to customers promptly, courteously and pleasantly. Always seek the help of the pharmacist when giving drugs, medicines and health information advice to patients.
4. Take the initiative to do possible tasks (eg, recording drugs that are out-of-stock for replenishment or removing expired drugs from cabinets, among others).
5. Note that accuracy and thoroughness are of the first importance in performing tasks; speed is only secondary.

6.
7.
8.

9.
10.
11.

Source: Training Program for Drugstore Sales Clerks (A Project of the World Health Organization and the Department of Health – Philippine National Drug Policy)

Appendix D – Sample list of medications as suggested in the Treatment Option page in the MIMS Pharmacy Guide.

Products

Antianemics/Pre-& Postnatal Vitamins

Cyanocobalamin
Ferric pyrophosphate
Ferrous fumarate
Ferrous gluconate
Ferrous sulfate
　Rhea Ferrous Sulfate, United Home Fersulfate
Iron
Folic acid
Iron
Iron polymaltose

Combination Products*
　Femina, Ferlin Drops, Ferlin Syrup, Ferroplex,
　Folium OB, Fortifer/Fortifer FA, Genalin OD,
　Globifer-Forte, Hemarate, Hemobion,
　Iberet-500, Iberet-Folic-500, Obynal-M,
　Odiron/Odiron C, Phil Pharmawealth/Nestor
　Ferrous Sulfate + Folic Acid, Sangobion

Multivitamins/with Minerals

Cyanocobalamin
Ferrous fumarate
Folic acid
Iron

Combination Products*
　Cluvimin, Esvimin, I-Tab, Immuvit, Revicon
　Max, Seven Seas M Vit Caps, Seven Seas M Vit
　Capsule With Siberian Ginseng, Ton-A,
　Vitalivin-E Reformulated

Vitamin B's/with C

Cyanocobalamin

Combination Products*
　Enervon-C Injection, Rhea Vitamin B
　Complex + C

Pediatric Vitamins & Minerals

Cyanocobalamin
Ferrous fumarate
Folic acid

Combination Products*
　Kiddie Prime

Appetite Stimulants

Buclizine
Cyanocobalamin
Ferrous sulfate
Nicotinamide
Pizotifen

Combination Products*
　Appebon 500, Appebon Syrup, Appebon with Iron
　Capsule, Appebon with Iron Syrup, Mediferron-Vita,
　Medifortan-AS, Pediafortan-AS, Propan Syrup,
　Propan With Iron

Infant Nutritional Products

Folic acid
Iron

Combination Products*
　Gain With Eye-Q, Hi-Nulac, Hi-Nulac Excel, Isomil,
　Mylac, Mylac Excel, Similac Advance w/ Eye-Q, Similac
　Neosure

Hematopoietic Agents

Epoetin alfa
　Epokine, Renogen
Epoetin beta

Supplements

Combination Products*
　Hemofer

Note: Drug Class/Group in bold/underlined blue font; Generic entries in bold black font; Brand entries in normal/italics black font.
Combination Products contain two or more active generics and are listed as Brand entries. See Product Information Section for more details.

Suggestions for a Good Pharmacist-Drugstore Sales Clerk Relationship

6. Keep the pharmacy premises, working tables, counters and shelves clean and well organized at all times.
7. Observe the use of a proper dining area or cubicle. Do not eat on the counter or in full view of the public.
8. Try to keep emotions in check, even in stressful situations. Exercise self-control at all times, especially when dealing with difficult customers and prudence with co-workers and supervisors.
9. Admit when an error or mistake has been committed and seek for remedy immediately.
10. Refrain from making arguments with co-employees and/or superiors in front of the public.
11. Make proper referral to and consult the pharmacist at all times in response to a patient's needs.

Source: Training Program for Drugstore Sales Clerks (A Project of the World Health Organization and the Department of Health – Philippine National Drug Policy)

`

Appendix E – Source Codes

pharmexsys.sql

```
-- phpMyAdmin SQL Dump
-- version 4.1.12
-- http://www.phpmyadmin.net
--
-- Host: 127.0.0.1
-- Generation Time: May 10, 2014 at 05:52 PM
-- Server version: 5.6.16
-- PHP Version: 5.5.11

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET time_zone = "+00:00";


/*!40101 SET
@OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT
*/;
/*!40101 SET
@OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESU
LTS */;
/*!40101 SET
@OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTIO
N */;
/*!40101 SET NAMES utf8 */;


--
-- Database: `pharmexsys`
--

-- --------------------------------------------------------

--
-- Table structure for table `advice`
--

CREATE TABLE IF NOT EXISTS `advice` (
  `advice_id` int(10) NOT NULL AUTO_INCREMENT,
  `advice_details` longtext NOT NULL,
  `treatment_option` longtext NOT NULL,
  PRIMARY KEY (`advice_id`)
) ENGINE=MyISAM  DEFAULT CHARSET=latin1
AUTO_INCREMENT=23 ;

--
-- Dumping data for table `advice`
--

INSERT INTO `advice` (`advice_id`, `advice_details`, `treatment_option`)
VALUES
(1, 'Eat balanced diet that includes iron-rich foods,e.g.,fruits,lean
meat,beans,whole-grain bread and green leafy vegetables.#Too much iron
can be dangerous.Excess iron intake has been associated with an increased
risk for cirrhosis,cardiomyopathy,diabetes and certain cancers. Iron
supplements should be taken only upon the advice of the physician.#Foods
high in folic acid and vitamin B12 include fish,dairy
products,meats,legumes,dark leafy vegetables,oranges and whole
grains.#Consumption of alcohol should be limited and prescribed folic
acid supplements should be taken during pregnancy to avoid folic acid-deficiency
anemia.#Make sure to wear shoes or slippers at all times to avoid worm
infestations.#Avoid too much exposure to gasoline
products,insecticides,chemicals and other toxic agents as they may also
cause anemia.', 'COMMON COLD\n#Rest and stop all exercises. Staying at
home will give your body a chance to recuperate and prevent you from
infecting others with colds. Wear a mask especially if you live or interact
with someone who has a chronic disease or a compromised immune
system.\n#Drink plenty of fluids, particularly hot fluids.\n#Inhale steam to
loosen nasal congestion and ease expulsion of mucus. Recommend taking
medicines, e.g. decongestant nose drops or sprays, but not for more than a
few days.\n#Warm, moist air helps relieve some cold symptoms.\n#Wash
your hands frequently and teach children the importance of washing hands
thoroughly with soap and water.\n#Avoid sharing drinking glasses, cups,
and other utensils to avoid transmission of the infection.\n#ALLERGIC
RHINITIS\n#Avoid the allergens that cause the condition whenever
possible. Control the nasal symptoms to help improve the eye symptoms
often experienced with allergic rhinitis.Over-the-counter (OTC)
antihistamines and decongestants provide symptomatic relief. Patients under
these medications should not drive or operate machinery as they may cause
drowsiness.\n#INFLUENZA (FLU)\n#Maintain a high fluid intake and get
adequate amount of bed rest for 1-3 days to let the body recover. Avoid
highly populated areas to prevent transmission of this very contagious
disease. If the flu is not sever and there are no complications, taking simple
analgesics, e.g. paracetamol and aspirin, may provide antipyretic and
analgesic relief. Consult a physician if there is no improvement in the
symptoms within 2 days or if the condition is not remedied completely in 1
week.\n#SINUSITIS\n#Drink plenty of fluids to help thin the mucus present
in the respiratory tract. Steam inhalation may also help ease the inflamed
sinus cavities. Simple analgesics, e.g. paracetamol and aspirin, relieve pain
and fever associated with sinusitis. Consult a physician if the condition
worsens after 2 days. Antibiotics and decongestants may be prescribed to
alleviate the condition.'),
(2, '', ''),
(3, '', ''),
(4, '', ''),
(5, '', ''),
(6, '', ''),
(7, '', ''),
(8, '', ''),
(9, '', ''),
(10, '', ''),
(11, '', ''),
(12, '', ''),
(13, '', ''),
(14, '', ''),
(15, '', ''),
(16, '', ''),
(17, '', ''),
(18, '', ''),
(19, '', ''),
(20, '', ''),
(21, '', ''),
(22, '', '');

-- --------------------------------------------------------

--
-- Table structure for table `assessment`
--

CREATE TABLE IF NOT EXISTS `assessment` (
  `assessment_id` int(10) NOT NULL AUTO_INCREMENT,
  `questions` longtext,
  `answer_key` longtext,
  `choices` longtext,
  PRIMARY KEY (`assessment_id`)
) ENGINE=MyISAM  DEFAULT CHARSET=latin1
AUTO_INCREMENT=110 ;

--
-- Dumping data for table `assessment`
--

INSERT INTO `assessment` (`assessment_id`, `questions`, `answer_key`,
`choices`) VALUES
(86, 'Most common mechanism of drug permeation?', 'passive diffusion',
'#endocytosis#carrier-mediated transport#active-transport#passive
diffusion#none of the above'),
(85, 'Term having to do with drug actions on the body?', 'pharmacokinetics',
'#pharmacokinetics#pharmacodynamics#pharmacogenetics#placebo#all of
the above'),
(87, 'Drug delivery method LEAST suitable for long term (days to weeks)
slow release.', 'time release capsule', '#pellet implant under the skin
(subcutaneous)#time release capsule#i.m. injection of a drug-oil
suspension#transdermal patch#none of the above'),
(88, 'Drug with this ionization property most likely to diffuse from intestine
(pH 8.4) to blood (pH 7.4)', 'weak acid (pKa 8.4)', '#weak acid (pKa
7.4)#weak base (pKa 8.4)#weak acid (pKa 8.4)#weak base (pKa 6.4)#weak
acid (pKa 6.4)'),
(89, 'Dramatic decrease in systemic availability of a drug following oral
administration is most likely due to:', 'patient non-compliance', '#extreme
drug instability at stomach pH#drug metabolized by gut flora#tablet does not
dissolve#patient non-compliance#hepatic'),
```

`

(90, 'Consider the following information about drug X: D = 300 mg; T =12 h; F = 0.70 (70% absorption);Vd = 40 L; half-life = 15 hours: What is the Css (concentration at steady-state) for drug X? (note dosing interval is now 12 hours)', '9.5 ug/ml at 12 hours', '#9.5 ug/ml at 12 hours#2.4 ug/ml at 12 hours#190 ug/ml at 12 hours#95 ug/ml at 12 hours#4.7 /ug/ml at 12 hours'),
(108, 'Typical properties of carrier-mediated drug transport: ', 'inhibitable', '#non-saturable#active transport#energy requiring#inhibitable'),
(107, 'Typical properties of carrier-mediated drug transport: ', 'inhibitable', '#non-saturable#active transport#energy requiring#inhibitable'),
(106, 'Concerning oral administration -- disadvantages?', 'drug taken orally may be destroyed by gastric acidity', '#least economical#drug taken orally may cause emesis# drug taken orally may be destroyed by gastric acidity#drug taken orally may be metabolized by gastrointestinal flora#drug taken orally may be in consistently absorbed due to the presence of food');

-- --

--
-- Table structure for table `healthconcern_medication`
--

CREATE TABLE IF NOT EXISTS `healthconcern_medication` (
  `healthconcern_medication_id` int(10) NOT NULL AUTO_INCREMENT,
  `health_concern_id` int(10) NOT NULL,
  `medication_id` int(10) NOT NULL,
  PRIMARY KEY (`healthconcern_medication_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=3 ;

--
-- Dumping data for table `healthconcern_medication`
--

INSERT INTO `healthconcern_medication`
(`healthconcern_medication_id`, `health_concern_id`, `medication_id`)
VALUES
(1, 1, 1),
(2, 2, 2);

-- --

--
-- Table structure for table `health_concern`
--

CREATE TABLE IF NOT EXISTS `health_concern` (
  `health_concern_id` int(10) NOT NULL AUTO_INCREMENT,
  `health_concern_name` varchar(300) NOT NULL,
  `health_concern_desc` longtext NOT NULL,
  `symptom` longtext NOT NULL,
  PRIMARY KEY (`health_concern_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=27 ;

--
-- Dumping data for table `health_concern`
--

INSERT INTO `health_concern` (`health_concern_id`, `health_concern_name`, `health_concern_desc`, `symptom`) VALUES
(1, 'Anemias', 'Anemia is the most common blood disorder and occurs when the concentration of hemoglobin in the blood falls below the normal range for the age and gender of the individual. In addition, the number of red blood cells (erythrocytes) is also decreased. Hemoglobin is the component of red blood cells that carry oxygen from lungs to tissues. The most common form of anemia is iron-deficiency anemia. Iron is an essential component of hemoglobin and deficiency of iron in the diet results in low levels of hemoglobin. Other causes of iron-deficiency anemia include poor absorption in the body and blood loss. This deficiency usually occurs in women of childbearing age but may also occur in infants, children and adolescents during rapid growth spurts. Pernicious anemia is a type of anemia that occurs when a person lacks a substance (intrinsic factor) that is necessary to absorb and process vitamin B12. It is often hereditary and usually occurs in elderly. Folic acid-deficiency anemia is characterized by abnormally large but few red blood cells (megaloblastic). Poor diet with alcoholism is the most common cause of folate deficiency. It is present in malabsorption problems, and certain medications (e.g., anticonvulsants) may also cause folic acid deficiency. Symptoms of this type of anemia include weight loss, diarrhea and reduced exercise endurance.', 'Fatigue#Weakness#Shortness of breath#Dizziness or fainting#Pale skin: including decreased pinkness of the lips,gums,lining of the eyelids,nail beds and palms#Rapid heart beat(tachycardia)#Feeling cold'),
(2, 'Asthma (Hika)-Pediatric', 'Asthma is the most common chronic, non-contagious respiratory condition occurring in children. It is defined as a chronic inflammatory disorder of the airways as a result of an allergic reaction that affects the respiratory tubules of the lungs, causing an overreaction of the lining of the bronchioles to various stimuli, e.g. dust, stress, and excitement. The inflammation causes obstruction of the air passages which are often reversible, and manifests in the form of recurrent breathing problems. The condition occurs in both children and adults, although the condition is often more complex among children. Asthma occurs more frequently among boys than in girls. However, the trend changes after puberty, where more girls tend to experience the condition than boys. Common asthma triggers include hereditary, infectious, allergenic, environmental, socio-economic and psychological factors. Examples are dust, pet hairs, extreme emotions, food, etc.', 'Coughing#Wheezing#Difficulty in breathing'),
(3, 'Body Ache (Pananakit ng katawan)', 'haha', 'many#many'),
(4, 'Colds (Sipon)', '', ''),
(5, 'Contraception (Pagpipigil o kontrol sa pagbubuntis)', '', ''),
(6, 'Cough:Productive (Ubong may plema)', '', ''),
(7, 'Diarrhea (Pagtatae;Kurso)', '', ''),
(8, 'Dysmenorrhea', '', ''),
(9, 'Fever (Lagnat)', '', ''),
(10, 'Gas Pain (Kabag)', '', ''),
(11, 'Hemorrhoids (Almuranas)', '', ''),
(12, 'Hyperacidity (Pangangasim ng sikmura)', '', ''),
(13, 'Hypertension (Alta-presyon)', '', ''),
(14, 'Liver Disease (Sakit sa atay)', '', ''),
(15, 'Nutritional Supplementation in Children', '', ''),
(16, 'Nutritional Supplementation in Pregnancy', '', ''),
(17, 'Pain (Pananakit)', '', ''),
(18, 'Prickly heat (Bungang-araw)', '', ''),
(19, 'Scars (Peklat;Pilat)', '', ''),
(20, 'Vaginitis', '', ''),
(21, 'Varicose Veins', '', ''),
(26, 'New Sickness', 'Hey', '');

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--
-- Table structure for table `medication`
--

CREATE TABLE IF NOT EXISTS `medication` (
  `medication_id` int(10) NOT NULL AUTO_INCREMENT,
  `health_concern_id` int(10) DEFAULT NULL,
  `medication_name` longtext NOT NULL,
  `medication_class` longtext NOT NULL,
  `medication_type` longtext NOT NULL,
  `medication_manufacturer` longtext NOT NULL,
  `drug_regulated_content` longtext NOT NULL,
  `medication_indication` longtext NOT NULL,
  `medication_dosage` longtext NOT NULL,
  `medication_oral_admin` longtext NOT NULL,
  `medication_ppp_advice` longtext NOT NULL,
  `medication_contraindication` longtext NOT NULL,
  `medication_special_precaution` longtext NOT NULL,
  `medication_adverse_reaction` longtext NOT NULL,
  `medication_drug_indication` longtext NOT NULL,
  `medication_presentation_price` longtext NOT NULL,
  `medication_us_preg_cat` longtext NOT NULL,
  PRIMARY KEY (`medication_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=54 ;

--
-- Dumping data for table `medication`
--

INSERT INTO `medication` (`medication_id`, `health_concern_id`, `medication_name`, `medication_class`, `medication_type`, `medication_manufacturer`, `drug_regulated_content`, `medication_indication`, `medication_dosage`, `medication_oral_admin`, `medication_ppp_advice`, `medication_contraindication`, `medication_special_precaution`, `medication_adverse_reaction`, `medication_drug_indication`, `medication_presentation_price`, `medication_us_preg_cat`) VALUES

```
`
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(52, 1, 'cyanobalamin', 'Antienemics', 'RXs', 'Unilab', 'HCl', 'Anemia', '12 mg per day', 'Before eating ', 'None', 'Aspirin', 'Do not drink without water', 'Fever', 'None', '30 x 500', 'A');

-- --

--
-- Table structure for table `rule`
--

CREATE TABLE IF NOT EXISTS `rule` (
  `rule_id` int(11) NOT NULL AUTO_INCREMENT,
  `health_concern_id` int(11) NOT NULL,
  `advice_id` int(11) DEFAULT NULL,
  `rule_detail` longtext NOT NULL,
  `rule_id_yes` int(11) DEFAULT NULL,
  `rule_id_no` int(11) DEFAULT NULL,
  PRIMARY KEY (`rule_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1 AUTO_INCREMENT=302 ;

--
-- Dumping data for table `rule`
--

INSERT INTO `rule` (`rule_id`, `health_concern_id`, `advice_id`, `rule_detail`, `rule_id_yes`, `rule_id_no`) VALUES
(1, 1, 1, 'Does the patient have history of the following conditions? \r\n\r\n-Blood loss due to a)injury b)surgery c)menstruation d)inflammatory bowel disease(IBD),abnormal clotting\r\n\r\n-Diseases a)cancer - gastrointestinal cancer,intestinal parasites- hook worm\r\n\r\n-Medication side effects-antibiotics, anti-seizure, or anti-cancer medicines\r\n\r\n-Poor diet - lack of meat, poultry products, fruits and vegetables in the diet\r\n\r\n-Vitamin or iron deficiencies - no dietary supplement', 2, 3),
(2, 1, 1, 'Patient maybe suffering from Anemia.', 4, 4),
(3, 1, 1, 'Does the family has a history of sickle cell anemia,thalassemia, or glucose-6-phosphate dehydrogenase deficiency?', 4, 4),
(4, 1, 1, 'Refer to a physician for identification of anemia type and appropriate therapy.\r\n\r\n\nThe doctor will usually request for CBC which may indicate fewer red blood cells than normal. Other diagnostic tests may include: blood smear examination, iron tests, hemoglobin electrophoresis, bone marrow aspiration & biopsy, and reticulocyte count.', NULL, NULL),
(5, 2, NULL, 'Does the patient exhibit any of the following warning signs?\r\n-Bluish discoloration of the lips & face(cyanosis)\r\n-Decreased level of consciousness(abnormal drowsiness or confusion)\r\n-Difficulty in speaking', 6, 7),
(6, 2, NULL, 'Was the child breathing normally until a few moments ago?', 8, 9),
(7, 2, NULL, 'Is the patient febrile(body temperature greater than 38 degrees Celcius)?', 10, 11),
(8, 2, NULL, 'The child maybe choking. A foreign body may be logged in the child''s windpipe. If the child is small enough, advise the parent to turn the child upside down and slap him/her firmly on the back. \r\nIf this does not remove the object at once, advise the patient to call an ambulance or bring the child immediately to the hospital.', NULL, NULL),
(9, 2, 2, 'Are the patient`s symptoms triggered or worsened by any of the following factors?\r\n-Dust\r\n-Animal Dander\r\n-Pollen\r\n-Exertion(exercise)\r\n-Certain medications(e.g.,aspirin,NSAIDs)\r\n-Cigarette smoke\r\n-Pollution\r\n-Extreme emotions - stress or excitement', 12, 13),
(10, 2, NULL, 'Patient may be suffering from a Respiratory Tract infection,e.g. Bronchiolitis, Bronchitis or Pneumonia.\r\n\r\n\nConsult with a physician.', NULL, NULL),
(11, 2, NULL, 'Refer to a Physician.', NULL, NULL),
(12, 2, 2, 'Is the child currently under treatment medications for asthma?', 14, 15),
(13, 2, NULL, 'Diagnosis cannot be made.Refer to a Physician', NULL, NULL),
(14, 2, 2, 'Is the child having extreme difficulty breathing and is unable to speak?', 16, 17),
(15, 2, NULL, 'Refer to a physician.A first attack of asthma is possible.', NULL, NULL),
(16, 2, NULL, 'Patient may be suffering from Status Asthmaticus.EMERGENCY.Seek immediate care!', NULL, NULL),
(17, 2, 2, 'Patient may be suffering from Bronchial Asthma.See Patient Advice.', NULL, NULL),
(18, 3, 3, 'Is the patient under medication?', 19, 20),
(19, 3, NULL, 'Patient may be experiencing Drug-Induced Body Ache.Certain Drugs have body ache as a side effect. Examples of drugs which may cause body ache include amphotecirin B, carbinoxolone,

chloroquine, clofibrate, corticosteroids and hydroxychloroquine. \r\n\r\n\nAdvise the patient to discuss the problem with his/her physician.', NULL, NULL),
(20, 3, 3, 'Is the patient under stress or tension?', 21, 22),
(21, 3, 3, 'Has the patient undergone a traumatic experience recently?', 23, 24),
(22, 3, 3, 'Is the patient experiencing gastrointestinal symptoms, e.g. stomach and intestinal disturbances?', 27, 28),
(23, 3, NULL, 'Patient maybe suffering from Post-Traumatic Stress Disorder, a debilitating condition which arises after a frightening event. The patient often go through nightmares and disturbing recollections of the said event. Other symptoms include, sleep disorders, depression and other negative behavioral changes. \r\n\r\n\nAdvise the patient to consult his physician for appropriate therapy.', NULL, NULL),
(24, 3, 3, 'Is the patient engaging in strenuous physical activities?', 25, 26),
(25, 3, NULL, 'Patient maybe suffering from Stress-Induced Body Ache. Tension or stress, muscle strain, and injury or trauma may lead to body pain. if the patient has contacted an injury, e.g. sprain, advise consultation with a physician for possible treatment. However, ample rest may relieve the pain patient is experiencing. Oftentimes, the body takes 48 hrs to recover from a strenuous activity.', NULL, NULL),
(26, 3, NULL, 'Refer to a physician.', NULL, NULL),
(27, 3, 3, 'Has the patient ingested raw/undercooked pork recently?', 29, 26),
(28, 3, 3, 'Does the patient have bluish purple discoloration across the body?', 30, 26),
(29, 3, NULL, 'Patient may be suffering from Trichinosis or Trichinellosis, an infection caused by Trichinella larvae often found in raw pork, e.g. ham or sausage. Common symptoms include, nausea, vomiting, fatigue, fever and abdominal discomfort. Severe cases may affect coordination, heart and breathing capabilities and may lead to muscular rheumatism.\r\n\r\n\nEMERGENY Seek immediate care!', NULL, NULL),
(30, 3, NULL, 'Patient may be suffering from Dermatomysitis, characterized by symmetric weakness of muscles close to the trunk. Elevation of muscle enzyme levels in serum and skin rash(patchy, bluish-purple discolorations on the face, neck, shoulders, upper chest, elbows, knees, knuckles and back) are also evident. In more severe cases, patient has difficulty in rising from sitting position, climbing stairs, lifting objects or reaching overhead. \r\n\r\n\nAdvise the patient to consult his physician.', NULL, NULL),
(31, 4, NULL, 'Is the nasal discharge clear or watery?', 32, 33),
(32, 4, NULL, 'Is the body temperature 38 degrees Celsius or above?', 34, 35),
(33, 4, NULL, 'Is the nasal discharge thick and cloudy?', 36, 37),
(34, 4, NULL, 'Is the fever accompanied by muscle & joint aches/pains?', 38, 35),
(35, 4, NULL, 'Is the patient sneezing?Are the nose/eyes red and itchy?', 41, 42),
(36, 4, NULL, 'Is the patient experiencing facial or sinus pain?', 39, 40),
(37, 4, NULL, 'Refer to a physician', NULL, NULL),
(38, 4, 4, 'Possible infection with the influenza or flu virus. See Patient Advice', NULL, NULL),
(39, 4, 4, 'Possible case of Sinusitis - inflammation of the membrane lining the sinuses or the hollow spaces in the bones around the nose, cheeks and the eyes.\r\n\r\n\nSee Patient Advice.', NULL, NULL),
(40, 4, 4, 'This maybe a Common Cold. \r\nSee Patient Advice.', NULL, NULL),
(42, 4, NULL, 'Is the patient coughing? Just had sore throat recently?', 43, 44),
(43, 4, 4, 'This may just be a Common Cold.\r\nSee Patient Advice.', NULL, NULL),
(44, 4, 4, 'Possible case of Allergic Rhinitis that have been triggered by exposure to allergens, e.g. pollens or animal fur.\r\nSee Patient Advice.', NULL, NULL),
(45, 5, NULL, 'Is the patient unwilling to undergo contraceptive methods?', 46, 47),
(46, 5, NULL, 'Some couples are bound by their religion or just simply refuse to use contraceptive methods. These couples may opt for Natural Family Planning. However, this method has a higher risk of failure than the other methods. This method is based on monitoring a woman`s menstrual cycle. Methods under natural family planning are: temperature method, calendar method, mucus inspection method and the mucothermal method.', NULL, NULL),
(47, 5, NULL, 'Does the patient have a genetic disorder or health problem resulting to unsafe pregnancy and no longer intend to become pregnant in the future?', 48, 49),
(48, 5, NULL, 'Is sterilization an option for the patient?', 50, 51),
(49, 5, NULL, 'Is the patient smoker and >35 years old?', 52, 53),
(50, 5, NULL, 'Patient may undergo Sterilization by Tubal Ligation, a method involving fallopian tube alteration by tying, banding, clipping, blocking or cutting. This is to prevent the egg from being fertilized by the sperm during conception. Ideally, tubal ligation is carried out shortly after

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delivery since the abdominal wall is relaxed and the upper part of the uterus is located near the navel which is the point of entry during the procedure. Another sterilization method is Hysterectomy, the removal of the uterus. However, this is a very risky procedure and should not be undergone unless a serious medical condition requires it.', NULL, NULL),

(51, 5, NULL, 'Patient may use an Intrauterine Device(IUD), a small plastic device inserted inside the uterus. It is 95-98% effective but may cause irritation.', NULL, NULL),

(52, 5, NULL, 'Does the patient want to delay her pregnancy for several years but has plans of getting pregnant in the future?', 54, 55),

(53, 5, NULL, 'Has the patient experienced any of the following?\r\n-Undergone a sexual assault\r\n-Engaged in a sexual intercourse without using contraception', 56, 57),

(54, 5, NULL, 'Injected Progestines/Implants are preparations containing progestin which prevents fertilization. They are implanted under the skin of the upper arm and lasts for 5 years.', NULL, NULL),

(55, 5, NULL, 'Refer to a physician.', NULL, NULL),

(57, 5, NULL, 'Does the patient engage in sexual activities frequently?', 58, 59),

(58, 5, NULL, 'Is the patient diagnosed of any of the following conditions?\r\n-Breast cancer within 5 years\r\n-Liver disease or dysfunction\r\n-Stroke or any related cardiovascular disease\r\n-Diabetes Mellitus\r\n-Blood disorders\r\n-Renal Problems', 60, 61),

(59, 5, 5, 'Patient may use Spermicide available in foams, jellies, suppositories, cream and foaming tablets. It kills the sperms before they enter.', NULL, NULL),

(60, 5, NULL, 'Is the patient at risk of acquiring STD, i.e. having sexual partner/s with suspected or known STD?', 62, 55),

(61, 5, 5, 'Patient may opt to use Oral Contraceptive Pills or birth control pills, the most commonly used method of contraception. It is a combination of estrogen and progestin. Sometimes, the patient may be advised to take mini-pills which contain progestin only.', NULL, NULL),

(62, 5, 5, 'Patient may use Female Condoms, which are commonly made from latex and comes in different forms. It has a low risk of failure. Using condoms also prevents the patient from acquiring STD.', NULL, NULL),

(63, 6, NULL, 'Is there shortness of breath or wheezing, or is there chest pain during coughing?', 65, 64),

(64, 6, NULL, 'Does the patient have a fever along with the cough?', 66, 67),

(65, 6, 6, 'You may recommend an over-the-counter(OTC) cough preparation to help relieve the cough.\r\n\r\nAdvise the patient to consult his physician if the cough is persistent and recurrent.', NULL, NULL),

(66, 6, NULL, 'Does the fever come and go?Is the patient coughing up blood-streaked mucus?', 69, 70),

(67, 6, NULL, 'Patient probably has Asthma, a non-contagious respiratory condition characterized by narrowing of air passages making breathing difficult.\r\n\r\nAdvise Patient to consult his physician.', NULL, NULL),

(68, 6, 6, 'See Patient Advice.', NULL, NULL),

(69, 6, NULL, 'Patient probably has Tuberculosis, a highly infectious bacterial infection that affects the lungs.\r\n\r\nAdvise the patient to consult his physician for complete diagnosis and appropriate therapy.', NULL, NULL),

(70, 6, NULL, 'Is the patient coughing up mucus that is foul-smelling, thick, sticky and colored brown, yellow, green or red?', 71, 72),

(71, 6, NULL, 'Refer to health condition Fever.', NULL, NULL),

(72, 6, NULL, 'Refer to a physician.', NULL, NULL),

(73, 7, 7, 'Is the condition accompanied by rapid weight loss or severe dehydration?', 74, 75),

(74, 7, 7, 'Is the condition accompanied by rapid weight loss or severe dehydration?', NULL, NULL),

(75, 7, 7, 'Are any of the following conditions also present?\r\n-Nausea\r\n-Weakness\r\n-Abdominal pain\r\n-Fever(body temp. >= 38 degrees Celsius)', 76, 77),

(76, 7, 7, 'Patient maybe suffering from Gastroenteritis, which is an acute, inflammation of the lining of the stomach and intestines. The condition may result from a bacterial infection (food poisoning) or a viral infection(rota virus in children). Advise the patient to consult his physician for appropriate therahy.', NULL, NULL),

(77, 7, 7, 'Is there blood present in the stools?', 78, 79),

(78, 7, 7, 'Patient may be suffering from an inflammatory Bowel Disease, e.g. Crohn`s Disease or Ulcerative Colitis. Oftentimes, pus is also present in the stools.\r\n\r\nAdvise the patient to consult his physician for complete diagnosis and appropriate therapy.', NULL, NULL),

(79, 7, 7, 'Has the patient just eaten dairy products and/or chocolates?', 80, 81),

(80, 7, 7, 'Patient may be suffering from Lactose Intolerance, a condition due to the absence or lack of the enzyme lactose in the digestive system. The disorder is characterized by abdominal crapms and diarrhea after the consumption of food containing lactose, e.g. milk, ice cream or chocolates.\r\n\r\nAdvise the patient to limit the amount of milk and milk

products in his diet. Consulting a physician is also advised. ', NULL, NULL),

(81, 7, 7, 'Does the patient complain of episodes of lower abdominal pain and swelling? Does constipation alternate with the condition?', 82, 83),

(82, 7, 7, 'Patient may be suffering from Irritable Bowel Syndrome(IBS). It is often characterized by abdominal discomfort or pain, bloating or distension, and disturbed defecation.\r\n\r\nAdvise the patient to consult his physician for tips on the prevention and management of this condition.', NULL, NULL),

(83, 7, 7, 'Is the patient under medication?', 84, 85),

(84, 7, 7, 'Diarrhea is a common side effect of magnesium-containing antacids and certain antibiotics.\r\n\r\nAdvise the patient to seek medical advice for the possible use of an alternative drug.', NULL, NULL),

(85, 7, 7, 'See Patient Advice.', NULL, NULL),

(86, 8, 8, 'Did a pain occur after having a coil fitted?', 87, 88),

(87, 8, 8, 'Possible case of pain due to Intrauterine Device(IUD) use.\r\n\r\nAdvise the patient to consult her physician/gynecologist.', NULL, NULL),

(88, 8, 8, 'Is the patient <30 years old?', 89, 90),

(89, 8, 8, 'Is the patient bleeding more profuse and heavier than usual?', 91, 92),

(90, 8, 8, 'Possible case of Secondary Dysmenorrhea which involves an underlying physical cause, e.g. endometriosis or uterine fibroids(benign growths). It is a painful condition where the tissues lining the uterus become implanted outside the uterus, e.g. fallopian tubes, ovaries or pelvic tissue.\r\n\r\nSee Patient Advice.', NULL, NULL),

(91, 8, 8, 'Refer to a physician.', NULL, NULL),

(92, 8, 8, 'Does the pain persist for >2 days after the start of the period?', 91, 93),

(93, 8, 8, 'Possible case of Primary Dysmenorrhea which usually manifests severely at ages 15-25. It is usually experienced during the first 3 years of menstruation and improves with age. It does not involve any physical abnormality or underlying medical problem. NO? Then you may recommend an analgesic to relieve pain. See also Patient Advice.\r\n\r\nAdvise the patient to consult her physician if the condition does not improve in 48 hours.', NULL, NULL),

(97, 9, 9, 'Possible mild viral illness, e.g. Common cold or Flu. NO? Then, you may recommend an antipyretic together with other symptom-relieving medicines, e.g. decongestant. Advise the patient to consult his physician if symptoms do not improve in 48 hours or if any of the symptoms become severe.', NULL, NULL),

(94, 9, 9, 'Patient presents with body temperature of 38 degrees Celsius?', 95, 96),

(95, 9, 9, 'Does the patient have a sore throat, a dry scratchy cough or mild headaches?', 97, 98),

(96, 9, 9, 'Does the patient have a cough?', 98, 105),

(98, 9, 9, 'is the patient having difficulty breathing even when resting Does the cough produce brownish mucus?', 99, 100),

(100, 9, 9, 'Is the patient coughing up greenish or yellowish mucus?', 101, 102),

(102, 9, 9, 'Does the fever come and go?Is the patient coughing up blood-streaked mucus?', 103, 104),

(99, 9, 9, 'Patient probably has a serious respiratory tract infection, e.g. Pneumonia, that causes inflammation of the tissues of the lungs.\r\n\r\nAdvise the patient to consult his physician immediately.', NULL, NULL),

(101, 9, 9, 'Patient probably has Bronchitis, a respiratory tract infection that causes inflammation of the air passages of the lungs.\r\n\r\nAdvise the patient to consult his physician immediately.', NULL, NULL),

(103, 9, 9, 'Patient probably has Tuberculosis, a highly infectious bacterial infection that affects the lungs.\r\n\r\nAdvise the patient to contact his physician for an appointment.', NULL, NULL),

(104, 9, 9, 'Refer to a physician.', NULL, NULL),

(105, 9, 9, 'Does the patient have any of the following symptoms?\r\n-severe headache\r\n-neck stiffness\r\n-drowsiness\r\n-vomiting', 106, 107),

(106, 9, 9, 'Do normal lights hurt the eyes?', 108, 104),

(107, 9, 9, 'Is the fever accompanied by aches, chills, nausea, vomiting, cramps or diarrhea?', 109, 110),

(108, 9, 9, 'Patient probably has Meningitis, an infection in the area surrounding the brain. \r\n\r\nAdvise the patient to see his physician immediately.', NULL, NULL),

(109, 9, 9, 'Is the patient experiencing acute stomach pain?', 111, 112),

(111, 9, 9, 'Patient probably has a severe medical problem, e.g. Appendicitis, Pancreatitis, Hepatitis or Colitis.\r\n\r\nAdvise the patient to seek immediate care.', NULL, NULL),

(112, 9, 9, 'Patient may have Gastroentitis. You may recommend an antidiarrheal or anti-cramping medicine along with an antipyretic.\r\n\r\nAdvise the patient to consult his physician if the diarrhea becomes severe or bloody, or if vomiting continues longer than 12 hours.', NULL, NULL),

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(113, 9, 9, 'Patient may have a prolonged viral illness, e.g. Mononucleosis. Refer to a physician.', NULL, NULL),
(114, 9, 9, 'Does the patient have a sore throat accompanied by severe headache?', 115, 116),
(115, 9, 9, 'Patient probably has a viral illness or Strep throat. You may recommend an antipyretic/analgesic together with a cough preparation. Advise the patient to consult his physician if symptoms do not improve in 48 hours or become severe.', NULL, NULL),
(116, 9, 9, 'Is there pain within the inner ear? Does the pain radiate when earlobe is pulled?', 117, 118),
(117, 9, 9, 'Patient may have a middle ear infection(Otitis media) or an outer ear infection(Swimmer`s ear or Otitis externa). Both of these conditions could lead to more serious infections or problems.\r\n\r\nAdvise the patient to immediately arrange an appointment with his physician.', NULL, NULL),
(118, 9, 9, 'Has the patient been exposed to high temperatures outside or inside his work place?', 119, 120),
(119, 9, 9, 'Rise in the patient`s body temperature may be due to Heat exhaustion.', NULL, NULL),
(120, 9, 9, 'Refer to a physician.Diagnosis cannot be made.', NULL, NULL),
(121, 10, 10, 'Is the pain persistent and intense that it interferes with the patient`s daily activities and occurring for a long time?', 122, 123),
(122, 10, 10, 'EMERGENCY. Seek immediate care!', NULL, NULL),
(123, 10, 10, 'Is there an increased frequency of bowel movements?', 124, 125),
(124, 10, 10, 'Is the patient`s stool fatty and with foul odor?', 126, 127),
(125, 10, 10, 'Is the patient experiencing infrequent and difficult defecation?', 128, 129),
(126, 10, 10, 'Posssible case of Celiac Disease, characterized by intolerance to glutten present in food that often results in intestinal disorders. Other symptoms include weakness, abdominal pain and weight loss.\r\n\r\nAdvise the patient to consult his physician.', NULL, NULL),
(127, 10, 10, 'Possible case of Diarrhea, a condition characterized by loose, watery stools. Advise the patient to consult his physician for identification of any possible underlying disease or condition.\r\n\r\nSee Patient Advice.', NULL, NULL),
(128, 10, 10, 'Possible case of Constipation, a condition characterized by abnormally infrequent bowel motions and/or pain and difficulty when passing stools.\r\n\r\nSee Patient Advice.', NULL, NULL),
(129, 10, 10, 'Has the patient noticed blood in the stools?', 130, 131),
(130, 10, 10, 'Does the patient have a fever(>=38 degrees Celsius)?', 132, 133),
(131, 10, 10, 'Is the patient`s abdomen tender and accompanied by bleeding rectum, frequent and painful urination?', 134, 135),
(132, 10, 10, 'Is the patient undergoing antibiotic therapy?', 136, 137),
(133, 10, 10, 'Possible case of Crohn`s Disease, an inflammation of gastrointestinal tract lining. Oftentimes, pus is present in the stools. Other symptoms include ulcers, fatigue, weight loss and abdominal pain.\r\n\r\nAdvise the patient to consult his physician.', NULL, NULL),
(134, 10, 10, 'Possible case of Diverculitis, an inflammation of the diverticula often accompanied by vomiting, bloating.\r\n\r\nAdvise the patient to consult his physician.', NULL, NULL),
(135, 10, 10, 'See Patient Advice.', NULL, NULL),
(136, 10, 10, 'Possible case of Antibiotic-Associated Diarrhea.\r\n\r\nAdvise the patient to consult his physician for the possible discontinuance of the antibiotic as this may be causing a disruption of the normal bacterial flora in the intestines.', NULL, NULL),
(137, 10, 10, 'Diagnosis cannot be made. Refer to a physician.', NULL, NULL),
(138, 11, 11, 'Is the patient pregnant?', 139, 140),
(140, 11, 11, 'Does the patient experience painful sensations during bowel movements?', 141, 142),
(141, 11, 11, 'Does the pain subside in between bowel movements?', 143, 144),
(139, 11, 11, 'Pregnant women often develop Hemorrhoids due to the increased pressure exerted by the fetus on the abdomen. This condition is oftentimes accompanied by constipation.\r\n\r\nAdvise the patient to avoid straining during defecation, or getting constipated. See also the Patient Advice.', NULL, NULL),
(142, 11, 11, 'See the Patient Advice.', NULL, NULL),
(143, 11, 11, 'Patient may be suffering from Anal Fissure, a condition often mistaken as hemorrhoids. It is a tear occurring in the anus caused by the passage of hard stools. See Patient Advice.', NULL, NULL),
(146, 11, 11, 'Is there minor rectal bleeding(i.e., bright red blood outside the stool) after straining to defecate?', 147, 148),
(144, 11, 11, 'Is the pain severe, lingering even after each bowel movement?', 145, 146),
(148, 11, 11, 'Is the patient bleeding heavily for >2 days?', 149, 150),
(145, 11, 11, 'Patient may be experiencing a Strangulated Hemorrhoid, a type of internal hemorrhoid resulting from blockade of blood supply into the hemorrhoids.', NULL, NULL),

(147, 11, 11, 'EMERGENCY. Seek medical attention immediately.', NULL, NULL),
(149, 11, 11, 'Patient may develop Anemia due to sever blood loss.\r\n\r\nAdvise the patient to consult his physician.', NULL, NULL),
(150, 11, 11, 'Patient may be experiencing Internal Hemorrhoids which are generally painless. However, large hemorrhoids may swell and cause pain when squeezed by the anal muscles. In addition, bleeding that accompany the condition occurs during a normal bowel movement rather than after straining as seen in external hemorrhoids.\r\n\r\nSee Patient Advice.', NULL, NULL),
(151, 12, 12, 'Does the patient experience any of the following symptoms?\r\n-Nausea\r\n-Vomiting\r\n-Loss of appetite\r\n-Sour belching', 152, 153),
(153, 12, 12, 'Has the patient experienced similar abdominal pains and accompanying symptoms in the past?', 154, 155),
(154, 12, 12, 'Is the pain recurrent with the patient losing more than 4.5 kg in weight within the past 10 weeks?', 156, 157),
(152, 12, 12, 'These are standard symptoms of Hyperacidity. See Patient Advice.', NULL, NULL),
(156, 12, 12, 'Patient may be suffering from Gastrointestinal Ulcers, either in the stomach (gastric or stomach ulceration) or duodenum(duodenal perforation), which is usually the common cause of such symptoms.\r\n\r\nAdvise the patient to consult his physician for complete diagnosis and appropriate therapy.', NULL, NULL),
(157, 12, 12, 'Refer to a physician.', NULL, NULL),
(155, 12, 12, 'Has the patient experienced severe abdominal pain for more than an hour that has not been relieved by vomiting? Is there presence of blood in vomit or stools?', 158, 159),
(158, 12, 12, 'Patient may be suffering from a Serious Abdominal Condition, that warrants immediate medical attention.\r\n\r\nEMERGENCY. Seek immediate care!', NULL, NULL),
(159, 12, 12, 'Did the pain arise a few hours after eating too much food(especially creamy or spicy foods) or drinking too much alcohol?', 162, 161),
(160, 12, 12, 'Possible case of Indigestion or Dyspepsia that may have resulted from overeating, and is aggravated by alcohol. You may recommend an over-the-counter(OTC) antacid to help relieve pain and discomfort.\r\n\r\nAdvise the patient to consult his physician if the pain becomes severe and does not improve in 24 hours.', NULL, NULL),
(161, 12, 12, 'Is the patient relieved of discomfort after vomiting?', 162, 163),
(162, 12, 12, 'A possible case of Gastroesophageal Reflux Disease(GERD), which is a digestive disorder that causes the stomach contents to flow back up into the esophagus.', NULL, NULL),
(163, 12, 12, 'Is the patient under medication?', 164, 165),
(164, 12, 12, 'Certain drugs can cause nausea and vomiting as side effects. Advise the patient to discuss the problem with his physician.', NULL, NULL),
(165, 12, 12, 'Refer to a physician if diagnosis cannot be made using this chart.', NULL, NULL),
(166, 13, 13, 'Is there a marked elevation of the BP?', 167, 168),
(167, 13, 13, 'Is the elevation of BP accompanied by target organ diseases(TOD), e.g. encephalopathy, myocardial infarction, unstable angina, pulmonary edema, eclampsia, stroke, head trauma, life-threatening arterial bleeding or aortic dissection?', 169, 170),
(169, 13, 13, 'EMERGENCY. Seek immediate care! Patient may be suffering from Hypertensive Crisis and must be admitted to the hospital immediately.', NULL, NULL),
(170, 13, 13, 'Patient is possibly suffering from Hypertensive Emergency. Oral antihypertensives should immediately be administered.\r\n\r\nHospitalization is not necessary.', NULL, NULL),
(168, 13, 13, 'Is the patient female?', 171, 172),
(171, 13, 13, 'Is the patient pregnant?', 173, 174),
(172, 13, 13, 'Is the SBP 120-139mm Hg and DBP 80-89 mm Hg?', 175, 176),
(173, 13, 13, 'Increase in BP is a commonality during pregnancy. However, if this is accompanied by presence of protein in urine, edema and sudden and excessive weight gain, patient may be experiencing Pre-Eclampsia.\r\n\r\nSee Patient Advice.', NULL, NULL),
(174, 13, 13, 'Is the patient taking oral contraceptives?', 177, 175),
(175, 13, 13, 'Does the patient have kidney disease and/or diabetes mellitus?', 178, 179),
(176, 13, 13, 'Does the patient present with any of the following risk factors?\r\n-Cigarette smoking\r\n-Obesity(BMI>30 kg/mxm)', 180, 181),
(177, 13, 13, 'One of the common adverse effects of oral contraceptives is increased BP thus, the patient develops hypertension.\r\n\r\nAdvise the patient to consult an obstetrician-gynecologist(OB-Gyne) for an alternative contraceptive method.', NULL, NULL),
(178, 13, 13, 'Refer to a physician.', NULL, NULL),

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(179, 13, 13, 'Patient may be experiencing Prehypertension. Although this is not considered as a disease category, patients belonging to this group have a very high risk of developing hypertension. Lifestyle modification is suggested.\r\n\r\nSee also Patient Advice.', NULL, NULL),
(181, 13, 13, 'Diagnosis cannot be made. Refer to a physician.', NULL, NULL),
(180, 13, 13, 'Is the SBP 140-159 mm Hg and DBP 90-99 mm Hg?', 182, 183),
(182, 13, 13, 'Patient may be suffering from Stage I Hypertension. Advise patient to consult a physician for counseling on lifestyle modification and determining appropriate drug regimen.\r\n\r\nSee also Patient Advice.', NULL, NULL),
(183, 13, 13, 'Patient may be suffering from Stage II Hypertension, a condition characterized by SBP > 160 mm Hg and DBP > 100 mm Hg. Advise the patient to consult a physician for evaluation of secondary causes. It is possible that patient be advised to increase drug dosage or be hospitalized.\r\nPatients belonging to this category have a high risk of developing complications.', NULL, NULL),
(184, 14, 14, 'Did the patient experience a sudden attack of acute pain progressing rapidly, lasting from 30minutes to several hours? Is the condition accompanied by nausea and vomiting?', 185, 186),
(185, 14, 14, 'Patient probably has Gallstones, or biliary calculi, in the gallbladder or the surrounding bile ducts. These are solid deposits of cholesterol or calcium salts caused by too much cholesterol in the diet and incomplete emptying of the gallbladder.\r\n\r\nAdvise the patient to contact his physician for an appointment. You may recommend an over-the-counter(OTC) analgesic or muscle relaxant to temporarily relieve the pain accompanying the condition. If the physician confirms presence of gallstones, the patient will be advised to avoid fatty foods and maintain an ideal body weight.', NULL, NULL),
(186, 14, 14, 'Does the patient have flu-like symptoms progressing to a high fever?', 187, 188),
(187, 14, 14, 'Is the patient a chronic alcohol drinker?', 189, 190),
(189, 14, 14, 'Patient may be suffering from Alcoholic Hepatitis. This is a type of liver inflammation due to excessive and chronic alcohol consumption. It may begin with mild, flu-like symptoms and progress to a high fever accompanied by enlargement of the liver, which may lead to liver failure. Recovery from this condition is very slow, taking weeks to months to heal.\r\n\r\nAdvise the patient to consult his physician for proper diagnosis and appropriate therapy.', NULL, NULL),
(190, 14, 14, 'Is the patient taking any medication?', 193, 194),
(193, 14, 14, 'Patient may be suffering from Drug-Induced Hepatitis, which is due to use of certain medications. Isoniazid, methyldopa and paracetamol are among the agents that may cause hepatitis. Other drugs, i.e. chlorpromazine, oral contraceptives and anabolic steroids, have been found to interfere with the flow of bile in some instances. Remind the patient of the importance of consulting a physician prior to taking any medications, especially if there is a history of liver disease or liver problems.\r\n\r\nAdvice the patient to consult his physician for proper diagnosis and appropriate therapy.', NULL, NULL),
(194, 14, 14, 'Patient may be suffering from Acute Viral Hepatitis, which is the inflammation of the liver due to a virus. This may cause swelling and tenderness of the organ, which may or may not be permanent. Types of this disorder include hepatitis A, B,C,D,E,and G, among which A, B, and C are the most common.\r\n\r\nAdvise the patient to consult his physician for complete diagnosis and appropriate therapy.', NULL, NULL),
(188, 14, 14, 'Are any of the following risk factors present?\r\n-Patient is overweight or obese\r\n-Patient is middle-aged(>30 years old)\r\n-Patient has difficulty in losing weight\r\n-Patient has elevated cholesterol and triglyceride levels in the blood\r\n-Patient has type II diabetes mellitus', 191, 192),
(191, 14, 14, 'Patient may be suffering from Fatty Liver. However, this condition is not usually associated with obvious symptoms and may only be detected through laboratory tests, liver ultrasound scan or liver biopsy.\r\n\r\nAdvise the patient to consult his physician for complete diagnosis and appropriate therapy?', NULL, NULL),
(192, 14, 14, 'Does the patient have a history of alcohol abuse or chronic hepatitis B or C infection? Are any of the following symptoms also evident?\r\n-Weight loss &/or muscle wasting\r\n-Exhaustion & weakness\r\n-Fluid retention(edema)\r\n-Excessive bruising & bleeding\r\n-Spider-like blood vessels on the skin', 195, 196),
(195, 14, 14, 'Patient may be suffering from Liver Cirrhosis, a condition wherein the liver has undergone irreversible changes and is progressively destroyed as a result of an infection, ingestion of poison or other diseases. This is a very serious liver disease since the damage is irreversible. Furthermore, it produces side effects, e.g. portal hypertension, esophageal bleeding, ascites, spontaneous bacterial peritonitis and hepatic encephalopathy.\r\n\r\nAdvise the patient to consult his physician for complete diagnosis and appropriate therapy.', NULL, NULL),

(196, 14, 14, 'Diagnosis cannot be made. Refer to a physician.', NULL, NULL),
(197, 15, 15, 'Does the child present with the following symptoms if deficiency?\r\n-Night blindness\r\n-dry eye\r\n-Growth delay\r\n-Dry rough skin\r\n-Low resistance to infection.', 198, 199),
(198, 15, 15, 'The child probably has Vitamin A deficiency. Vitamin A is important to keep skin, hair & nails healthy. Maintains gums, glands, bones & teeth. Helps prevent infection. Promotes eye function and prevents night blindness. Good sources include milk & dairy foods, fortified cereals, green & yellow vegetables, deep yellow or orange fruits, and organ meats.', NULL, NULL),
(199, 15, 15, 'Weak deformed bones(rickets)?', 200, 201),
(200, 15, 15, 'The child probably has Vitamin D and Calcium deficiency.#Vitamin D is needed to help build and maintain bones, and for calcium absorption. Good sources include egg yolk, fish oils, fortified milk & butter, and exposure to sunlight without sunscreen.#Calcium builds bones and teeth. Promotes nerve & muscle function. Helps blood to clot.\r\n\r\nHelps activate enzymes that convert food into energy. Good sources include milk and dairy foods, canned fish(salmon, sardines) with bones, oysters, broccoli and tofu.', NULL, NULL),
(201, 15, 15, 'Blood problems in premature infants and neurological problems in older children?', 202, 203),
(202, 15, 15, 'The child probably has Vitamin E deficiency. Vitamin E helps form red blood cells, muscles & other tissues. It stabilizes cell membranes and preserves fatty acids. Good sources include poultry, seafood; green leafy vegetables; wheat germ; whole grains; seeds, nuts, butter, liver and egg yolk.', NULL, NULL),
(203, 15, 15, 'Excessive bleeding and bruising?', 204, 205),
(204, 15, 15, 'The child has probably Vitamin K deficiency. Vitamin K is needed for normal blood clotting and helps maintain healthy bones. Good sources include cow`s milk, green leafy vegetables, pork, liver, oats, wheat bran and whole grains.', NULL, NULL),
(205, 15, 15, 'Anxiety depression, nausea, muscle cramps, appetite loss. In extreme cases, muscle-wasting disease?', 206, 207),
(207, 15, 15, 'Cracks and sores around mouth and nose, sensitivity to light, difficulty eating and swallowing?', 208, 209),
(209, 15, 15, 'Diarrhea, mouth sores. In extreme cases, pellagra, with skin rash, inflammation of mucous membranes, diarrhea and mental symptoms.', 210, 211),
(211, 15, 15, 'Depression, mental confusion; inflammation of mucous membranes of the mouth; itchy scaling patches on skin; convulsions in infants', 212, 213),
(213, 15, 15, 'Anemia and nerve damage?', 214, 215),
(215, 15, 15, 'Bleeding gums, loose teeth; bruising; dry, rough skin; slow healing; appetite loss; scurvy in extreme cases', 216, 217),
(217, 15, 15, 'Anemia, with weakness, fatigue, shortness of breath.', 218, 219),
(219, 15, 15, 'Delayed growth and sexual development.', 220, 221),
(221, 15, 15, 'Goiter; delayed growth and development in infants (cretinism).', 222, 223),
(223, 15, 15, 'Tooth decay. The child probably has Flouride deficiency. Fluoride promotes strong teeth and bones in children. It enhances body`s uptake of calcium. Good sources include fluoridated water, food cooked in fluoridated water and tea.', NULL, NULL),
(206, 15, 15, 'The child probably has Vitamin B1 deficiency. Vitamin B1 is needed for promoting carbohydrate metabolism, for normal digestion, nerve function and energy enhancement. Good sources include pork, seafood and fortified grains & cereals.', NULL, NULL),
(208, 15, 15, 'The child probably has Vitamin B2 deficiency. Vitamin B2 is needed for food metabolism. Helps maintain mucous membranes and vision. facilitates release of energy to cells. Good sources include organ meat, beef, lamb, dark meat of poultry, dairy foods, fortified cereals, grains, and dark green leafy vegetables.', NULL, NULL),
(210, 15, 15, 'The child probably has Vitamin B3 deficiency. Vitamin B3 is needed in many enzymes that convert food to energy. Promotion of normal appetite & digestion, and nerve function. Good sources include poultry, seafood; seeds, nuts, peanuts, potatoes; fortified whole-grain breads and cereals.', NULL, NULL),
(212, 15, 15, 'The child probably has Vitamin B6 deficiency. Vitamin B6 is required for protein metabolism and absorption, and carbohydrate metabolism. It helps form red blood cells and promotes nerve function. Good sources include meats, fish, poultry; grains, cereals; spinach, sweet & white potatoes', NULL, NULL),
(214, 15, 15, 'The child probably has Vitamin B12 deficiency. Vitamin B6 helps build genetic material required by all cells and also helps form red blood cells. Good sources include all foods of animal origin, i.e. meats, poultry, eggs, seafood and dairy foods.', NULL, NULL),
(216, 15, 15, 'The child probably has Vitamin C deficiency. Vitamin C helps bind cells together. It strengthens blood vessel walls and may have antihistaminic effect against common colds symptoms. Good sources

include citrus fruits, strawberries, watermelon, sweet potatoes, cabbage, cauliflower & broccoli.', NULL, NULL),

(218, 15, 15, 'The child probably has Iron Deficiency. Iron is important in making hemoglobin(the red oxygen-carrying pigment in blood) and myoglobin(a pigment that stores oxygen in muscles). Good sources include red meat, liver, fish, shellfish, legumes, fortified breads & cereals.', NULL, NULL),

(220, 15, 15, 'The child probably has Zinc Deficiency. Zinc is required by enzymes in digestion and metabolism. It is also needed for sexual maturation. Good sources include beef, liver oysters, yogurt, fortified cereals & wheat germ.', NULL, NULL),

(222, 15, 15, 'The child probably has Iodine deficiency. Iodine is essential for function of the thyroid gland. Good sources include iodized salt, seafood & vegetables grown in iodine-rich soil.', NULL, NULL),

(224, 16, 16, 'Is the woman planning to get pregnant?', 225, 226),

(225, 16, 16, 'Does the woman have a family history of neural tube defects?', 227, 228),

(226, 16, 16, 'Is the woman already pregnant?', 230, 293),

(227, 16, 16, 'You may recommend folic acid at 5 mg daily under the supervision of her physician?', NULL, NULL),

(228, 16, 16, 'You may recommend folic acid at 400 mcg per day prior to conception and continued throughout the pregnancy.\r\n\r\nFolic Acid is important in preventing neural tube defects, including bifida, which occurs during the earliest stages of pregnancy. It is recommended for all women planning to get pregnant to obtain folic acid supplementation at least 1 month before conception and this must be continued at least 3 months during the pregnancy. Natural sources of folic acid include orange juice, enriched grains, nuts, beans, and leafy green vegetables like spinach. Factors that may lead to a decrease in floi acid levels in the body are excessive ultraviolet(UV) light exposure, especially in fair-skinned women, and women taking oral contraceptives.\r\n\r\nAs for pregnant women.\r\n\r\nWant more information?', 229, 293),

(229, 16, 16, 'Advise the patient to maintain adequate intake of calcium(total of 1200-1500 mg elemental calcium per day).\r\n\r\nCalcium is needed by the growing fetus for the development of string bones and teeth, which may affect the amount of calcium in the pregnant woman`s body. Thus, calcium supplementation is required in order to prevent this from occurring, especially if the woman does not consume enough fluid milk and/or have limited exposure to sunlight. Several sources of calcium include milk, cheese, yoghurt, sardines or salmon with bones, spinach, broccoli and tofu. In case the woman is lactose intolerant or having difficulty taking milk products, you may recommend various calcium supplements available in the pharmacy.', NULL, NULL),

(230, 16, 16, 'Advise the patient to maintain adequate intake of iron (extra 30 mg elemental iron per day). Lastly, iron is required to prevent anemia, due to increased requirement during pregnancy. The iron helps the mother and the baby`s blood carry oxygen. Natural sources of iron include lean meat, spinach, iron-fortified whole-grain bread and cereals. In addition, iron supplementation is also available in the pharmacy. Iron is best taken on an empty stomach. However, if the woman experiences stomach upset, she may take it with food. It is postulated that ascorbic acid(Vitamin C) aids in its absorption by the body. Thus, when taking iron supplementation, it is also recommended to take it with a glass of orange juice.\r\n\r\nWant more information?', 231, 293),

(231, 16, 16, 'Other supplements may be required depending on individual needs of the pregnant woman, e.g., vegetarian diet, which would require additional protein, vitamin B12 and Vitamin D supplements. It is important to consult with the obstetrian/gynecologist or he pharmacist before taking any supplement or medications in order to ensure safe and healthy pregnancy.', NULL, NULL),

(232, 17, 17, 'Has the patient suffered from any injury within the past 24 hours?', 233, 234),

(233, 17, 17, 'Is the patient unable to move even when resting?', 235, 234),

(234, 17, 17, 'Did the pain occur a few hours after engaging in a strenuous activity?', 236, 237),

(235, 17, 17, 'Patient probably has a fracture, dislocation or a serious injury.\r\n\r\nEMERGENCY. Seek immediate care!', NULL, NULL),

(236, 17, 17, 'Pain may have arised from overuse or trauma. It may be relieved by cold or warm compresses and massage of the affected area for ther first 24 hours after injury. You may recommend an analgesic to help relieve pain.\r\n\r\nAdvise the patient to consult his physician if the condition does not improve in 48 hours.', NULL, NULL),

(237, 17, 17, 'Does the patient complain of the pain in the joints or bones?', 238, 239),

(238, 17, 17, 'Patient may be suffering from Arthritis (a chronic disorder of the joints characterized by pain and inflammation) or other joint/bone disorder. \r\n\r\nAdvise the patient to consult his physician for diagnostic testing and appropriate therapy.', NULL, NULL),

(239, 17, 17, 'Does the patient complain of burning, stabbing, piercing, tingling or electric shock-like sensations triggered by a supposedly nonpainful stimulus, e.g. touch?', 240, 241),

(240, 17, 17, 'Patient may be suffering from Neuropathic Pain, which is a result of an injury or malfunction of the nervous system. It may constantly be present and may last for several months or years following tissue injury. Advise the patient to consult his physician for proper management of the condition.', NULL, NULL),

(241, 17, 17, 'Does the patient complain of pain on one side or both sides of the head?', 242, 243),

(242, 17, 17, 'Patient may be suffering from Headache or Migraine, two of the most common health problems experienced today. It may have many causes, and the site, severity and frequency with which they occur vary greatly.\r\n\r\nYou may recommend an anlagesic to help relieve the pain. Advise the patient to consult his physician if the headache is persisitent or recurring for no particular reason at all.', NULL, NULL),

(243, 17, 17, 'Does the patient complain of pain located on the abdomen?', 244, 245),

(244, 17, 17, 'Is the patient female?', 246, 247),

(245, 17, 17, 'Diagnosis cannot be made. Refer to a physician.', NULL, NULL),

(246, 17, 17, 'Patient may be suffering from Dysmenorrhea or Menstrual Pain.\r\n\r\nSee Dysmenorrhea.', NULL, NULL),

(247, 17, 17, 'Possible case of Abdominal Pain.\r\n\r\nSeek medical assistance to confirm underlying cause.', NULL, NULL),

(248, 18, 18, 'Does the patient have pus-filled pustules?', 249, 250),

(249, 18, 18, 'Warning. Patient may be experiencing Miliaria pustulosa, a complication of miliaria characterized by pus-filled pustules. Medical attention is necessary.', NULL, NULL),

(250, 18, 18, 'Are the spots, located in the face as well as in the trunk and axillae?', 251, 252),

(251, 18, 18, 'Does the lesions appear clear, superficial and 1-2 mm in diameter?', 253, 254),

(252, 18, 18, 'Refer to a physician.', NULL, NULL),

(253, 18, 18, 'Does the condition resolve after a few days but recurs upon exposure to hot, humid conditions?', 255, 252),

(254, 18, 18, 'Does the patient experience itching and stinging upon exposure to hot,humid environment but resolves upon transferring to a cooler condition', 256, 252),

(255, 18, 18, 'Patient may be experiencing Miliaria crystallina, an asymptomatic self-limiting condition. The lesions occur in crops and are confluent, without any surrounding erythema. In infants, lesions occur on the head, neck and upper part of the trunk. While in adults, lesions occur on the trunk.', NULL, NULL),

(256, 18, 18, 'Has the symptoms occurred in repeated episodes?', 257, 258),

(257, 18, 18, 'Are any of the following conditions present?\r\n-Heat exhaustion\r\n-Hyperpyrexia\r\n-Tachycardia', 259, 260),

(258, 18, 18, 'Patient may be experiencing Miliaria rubra, characterized by uniform, small erythematous papules. It does not occur in follicular distribution nor become confluent unlike Miliaria crystallina. In infants, lesions appear on the neck, groin and axillae. While in adults, lesions are found on covered skin where friction is present, e.g. trunk and flexures.\r\n\r\nSee Patient Advice.', NULL, NULL),

(259, 18, 18, 'WARNING. Patient maybe experiencing a severe case of Miliaria profunda.\r\n\r\nAdvise the patient to seek immediate medical attention.', NULL, NULL),

(260, 18, 18, 'Does the patient experience any of the following?\r\n-Heat intolerance\r\n-Weakness\r\n-Fatigue\r\n-Collapse', 261, 262),

(261, 18, 18, 'WARNING. Advise the patient to immediately consult a physician.', NULL, NULL),

(262, 18, 18, 'Patient may be experiencing Miliaria profunda where lesions are flesh-colored, nonfollicular and primarily located on the trunk. Affected areas manifest decreased or absence of sweating. This condition is a complication of Miliaria rubra.\r\n\r\nAdvise the patient to consult a physician.', NULL, NULL),

(263, 19, 19, 'What kind of scar does the patient have?\r\n- The patient may have an Atrophic Scar. Scars of this type are seen as skin depressions or indentations which may result form a surgery or a medical condition such as acne.\r\n-The patient may have a Hypertrophic scar. Scars of this type elevated above the skin. They may become thick and appear swollen. They also take longer to heal and remain within the boundary of the original injury.\r\n-The patient may have a Keloid scar,which protrudes from the skin and extends beyond the original injury site.', 264, 293),

(264, 19, 19, 'See Patient Advise for available methods (surgical & non-surgical) of scar treatment.', NULL, NULL),

(265, 20, 20, 'Has the patient been exposed recently to chemicals, e.g. bubble bath, douches, tampons or feminine wash?', 266, 267),

(266, 20, 20, 'Does the patient have foul-smelling and purulent discharge?', 268, 269),

(267, 20, 20, 'Is the patient in post-menopausal or post-partum stage?', 270, 271),

(268, 20, 20, 'Patient may be experiencing Irritant Vaginitis, a condition resulting from allergy or irritation from substances.\r\n\r\nSee Patient Advice.', NULL, NULL),

(269, 20, 20, 'Refer to a physician.', NULL, NULL),

(270, 20, 20, 'Patient may be experiencing Hormonal Vaginitis, a condition commonly resulting from decrease in estrogen levels which eventually leads to thinning of vulvar and vaginal skin.\r\n\r\nAdvise the patient to consult his physician or her gynecologist.', NULL, NULL),

(271, 20, 20, 'Does the patient have pruritus with a thick, white vaginal discharge which often tarts just prior to menses?', 272, 273),

(272, 20, 20, 'Patient may be suffering from Candidiasis, a very common fungal infection among women of childbearing age. Precipitating factors include immunosupression, diabetes mellitus, pregnancy and hormone replacement therapy.\r\n\r\nAdvise the patient to consult her physician or gynecologist.', NULL, NULL),

(273, 20, 20, 'Has the patient had a recent sexual contact? (If the patient appears to be a minor check for possible case of sexual abuse).', 274, 275),

(275, 20, 20, 'Are there infections in areas other than vagina?', 276, 277),

(274, 20, 20, 'Possible case of Trichomoniasis, a sexually transmitted diseaase, characterized by copious frothy discharge accompanied by vaginal pain or irritation. Symptoms often occur after menses.\r\n\r\nAdvise the patient to consult her physician or gynecologist.', NULL, NULL),

(110, 9, 9, 'Is the fever mild? Has it come and gone for weeks, along with sore throat and tiredness?', 113, 114),

(276, 20, 20, 'Is the perianal area affected characterized by redness, edema and tenderness?', 278, 279),

(277, 20, 20, 'Diagnosis cannot be made. Refer to a physician.', NULL, NULL),

(278, 20, 20, 'Patient may be suferring from Perianal Streptococcal Dermatitis characterized by fissures, drainage and hemorrhagic spotting.\r\n\r\nAdvise the patient to consult a physician.', NULL, NULL),

(280, 20, 20, 'Patient may be suffering from Bacterial Vaginosis characterized by grayish white homogenous discharge and amine smell. E. coli, Shigella sonnei or group A streptococci. This condition is common among pregnant women.\r\n\r\nAdvise the patient to consult her physician or gynecologist.', NULL, NULL),

(279, 20, 20, 'Does the patient have homogenous grayish white to yellowish white vaginal discharge?', 280, 269),

(281, 21, 21, 'Has the patient experienced localized pain and leg swelling? Is the affected area tender and warm to touch?', 282, 283),

(282, 21, 21, 'Does the vein feel hard under the skin?', 284, 285),

(283, 21, 21, 'Has the patient noticed small but numerous veins on the skin`s surface?', 286, 287),

(284, 21, 21, 'Patient may be experiencing Superficial Thrombophlebitis, the inflammation of a vein associated the patient to seek immediate medical attention.', NULL, NULL);

INSERT INTO `rule` (`rule_id`, `health_concern_id`, `advice_id`, `rule_detail`, `rule_id_yes`, `rule_id_no`) VALUES

(286, 21, 21, 'Patient probably has Spider Veins, a condition similar to varicose veins but smaller in sizes and more numerous. They are found closer to the surface of the skin and often appear red or blue. Its appearance is likened to a spider`s web or tree branch. Spider veins occur in legs and may sometimes be found in the face. There is no serious threat upon developing spider veins and there is no cause for alarm.\r\n\r\nSee Patient Advice.', NULL, NULL),

(285, 21, 21, 'Patient probably has Varicose Veins. These are twisted and swollen superficial veins that commonly appear at the back of the calves or on the inner side of the legs.\r\n\r\nSee Patient Advice.', NULL, NULL),

(287, 21, 21, 'Is the skin above the ankle itchy? Does it appear red, inflamed and scaly?', 288, 289),

(288, 21, 21, 'Patient may be suffering from Varicose Eczema, a condition arising from a mild eczema which later results to inflammation, reddening and scaling of the skin around the lower leg. Advise the patient to consult his physician for proper treatment.', NULL, NULL),

(289, 21, 21, 'Is the patient affected area (just above the ankle) thinner than the upper part of the leg?', 290, 291),

(290, 21, 21, 'Patient may be experiencing Lipodermatosclerosis, a condition characterized by discolored, shiny, hard skin accompanied by the hardening and shrinking of the fatty layer beneath resulting to dent formation in the leg area.\r\n\r\nAdvise the patient to consult his physician for proper treatment.', NULL, NULL),

(291, 21, 21, 'Does the patient complain of broken skin near the ankle that heals slowly?', 292, 293),

(292, 21, 21, 'Patient may be suffering from Skin Ulceration, a common complication of varicose veins, characterized by a raw pinkish base or may contain yellowish slough. Painful ulcers may form on the skin near varicose veins, particularly near the ankle area.\r\n\r\nAdvise the patient to seek immediate medical attention.', NULL, NULL),

(293, 21, 21, 'Diagnosis cannot be made. Refer to a physician.', NULL, NULL),

(41, 4, NULL, 'Nasal discharge may be due to exposure to environmental irritants, e,g, smoke or fumes.\r\n\r\nAvoid exposure to irritants. No other treatment is needed.', NULL, NULL),

(56, 5, 5, 'Patient may undergo Emergency Contraception which utilizes hormones, e.g. estrogen and progestin combination as well as progestin levonorgestrel, or IUD in preventing pregnancy.', NULL, NULL);

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-- Table structure for table `tutorial`
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CREATE TABLE IF NOT EXISTS `tutorial` (
  `tutorial_id` int(10) NOT NULL AUTO_INCREMENT,
  `tutorial_name` longtext NOT NULL,
  `tutorial_lesson_name` longtext NOT NULL,
  `tutorial_lesson_discussion` longtext NOT NULL,
  `tutorial_other_info` longtext NOT NULL,
  `tutorial_references` longtext NOT NULL,
  PRIMARY KEY (`tutorial_id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1
AUTO_INCREMENT=81 ;

--
-- Dumping data for table `tutorial`
--

INSERT INTO `tutorial` (`tutorial_id`, `tutorial_name`, `tutorial_lesson_name`, `tutorial_lesson_discussion`, `tutorial_other_info`, `tutorial_references`) VALUES
(78, 'Introduction to Drug Action', 'Disease Classification:', 'Disease Classification:\r\n\r\nA disease is a condition of impaired health resulting from a disturbance in the structure or function of the body. Diseases may be classified into the following major categories:\r\n\r\n1) Infections caused by viruses, ricketsia, bacteria, fungi, protozoa and worms\r\n2) Allergic diseases caused by antigens and foreign substances\r\n3) Metabolic disorders caused by defects in the body`s ability to carry out normal reactions - these may be hereditary, deficiency, and congenital defects\r\n4) Cancer\r\n5) Toxic diseases caused by poisons\r\n6) Psychosomatic and mental diseases\r\n\r\nChemotherapy, broadly defined, means the treatment of any disease by chemicals including infectious and non-infectious diseases. The original definition applied only to drugs which were used in the treatment of infectious diseases. The proper term for the treatment of non-infectious diseases is pharmacodynamics. ', 'Mode of Drug Action:\r\n\r\nIt is important to distinguish between actions of drugs and their effects. Actions of drugs are the biochemical physiological mechanisms by which the chemical produces a response in living organisms. The effect is the observable consequence of a drug action. For example, the action of penicillin is to interfere with cell wall synthesis in bacteria and the effect is the death of the bacteria.\r\n\r\nOne major problem of pharmacology is that no drug produces a single effect. The primary effect is the desired therapeutic effect. Secondary effects are all other effects beside the desired effect which may be either beneficial or harmful. Drugs are chosen to exploit differences between normal metabolic processes and any abnormalities which may be present. Since the differences may not be very great, drugs may be nonspecific in action and alter normal functions as well as the undesirable ones. This leads to undesirable side effects.\r\n\r\nThe biological effects observed after a drug has been administered are the result of an interaction between that chemical and some part of the organism. Mechanisms of drug action can be viewed from different perspectives, namely, the site of action and the general nature of the drug-cell interaction.\r\n\r\nl. Killing Foreign Organisms:\r\n\r\nChemotherapeutic agents act by killing or weakening foreign organisms such as bacteria, worms, viruses. The main principle of action is selective toxicity, i.e. the drug must be more toxic to the parasite than to the host.\r\n\r\n2. Stimulation and Depression:\r\n\r\nDrugs act by stimulating or depressing normal physiological functions. Stimulation increases the rate of activity while depression reduces the rate of activity. ', 'drugs.com'),
(79, 'Pharmacology ', 'Drug Classification:', 'b', ' Sites of Drug Action:\r\n\r\nl. Enzyme Inhibition:\r\n\r\nDrugs act within the cell by modifying normal biochemical reactions. Enzyme inhibition may be reversible or non reversible; competitive or non-competitive. Antimetabolites may be used which mimic natural metabolites. Gene functions may be suppressed.\r\n\r\n2. Drug-Receptor Interaction:\r\n\r\nDrugs act on the cell membrane by physical and/or chemical interactions. This is usually through specific drug receptor sites known to be located on the membrane. A receptor is the specific chemical

`

constituents of the cell with which a drug interacts to produce its pharmacological effects. Some receptor sites have been identified with specific parts of proteins and nucleic acids. In most cases, the chemical nature of the receptor site remains obscure.\r\n\r\n3. Non-specific Interactions:\r\n\r\nDrugs act exclusively by physical means outside of cells. These sites include external surfaces of skin and gastrointestinal tract. Drugs also act outside of cell membranes by chemical interactions. Neutralization ofstomach acid by antacids is a good example. ', 'www.wikipedia.com');

-- --

--
-- Table structure for table `user`
--

CREATE TABLE IF NOT EXISTS `user` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `username` varchar(50) COLLATE utf8_bin NOT NULL,
  `password` varchar(50) COLLATE utf8_bin NOT NULL,
  PRIMARY KEY (`id`),
  UNIQUE KEY `username` (`username`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_bin AUTO_INCREMENT=2 ;

--
-- Dumping data for table `user`
--

INSERT INTO `user` (`id`, `username`, `password`) VALUES
(1, 'admin', '21232f297a57a5a743894a0e4a801fc3');

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;

layout.css

```css
html, body, h1, h2, h3, h4, ul, li {

        margin: 0;

        padding: 0;

}

img {

        border: 0;

}

#header img{

        display: block;

        margin: 0 auto 0;

        margin-top:0px;

}

#footer img{

        display: block;

        margin: 0 auto 0;

        margin-bottom:0px;

}

#human img{

        display: block;

        float: left;

}

#rule{

        background: #c1d5ff;

        font: 16 "Tahoma", arial;

        color: #000000;

}

#bg{

        background-image: url(/pharmexsys/img/main_pattern.jpg);

        background-repeat: repeat;

}

#body{

        background-color: #ffffff;

        margin-right: 406px;

        margin-left: 406.5px;

        background-position: center;

        font: 14px Arial, Helvetica, sans-serif;

}

#body_rule{

        background-color: #ffffff;

        margin-right: 255px;

        margin-left: 255px;

        background-position: center;

        font: 14px Arial, Helvetica, sans-serif;

}

/**#body_frame{

        background-color: #ffffff;

        margin-right: 255px;

        margin-left: 255px;

        background-position: center;
```

```
`



}**/

#index{

        background-color: ffff66;

        margin-right: 255px;

        margin-left: 255px;

        background-position: center;

}

#selected{

        color: red;

}

#del{

background-color: #ffffff;

}


/*

ffff66 yellow light

ffff99 yellow lighter<---for body

6699cc blue

99ccff light blue

*/
```

style.css

```css
html, body, h1, h2, h3, h4, ul, li {
        margin: 0;
        padding: 0;
}
h1 img {
        display: block;
}
img {
        border: 0;
}
a {
        color: #464544;
}
a:hover {
        color: #FFA405;
}
.left {
        float: left;
}
.right {
        float: right;
}
.more {
        text-align: right;
}
.clear {
        clear: both;
}

body {
        background: #fff url(img/page_bg.jpg) repeat-x;
        text-align: center;
        font: 12px arial, sans-serif;
        color: #464544;
}

/** layout **/
#wrapper {
        text-align: left;
        margin: auto;
        width: 728px;
  position: relative;
}

h1 {
  position: absolute;
  top: 46px;
  left: 0;
  height: 43px;
  padding-top: 8px;
  width: 414px;
  text-align: center;
  background: #00709e;
  color: #ffffff;
  font: 24px "Times new roman", serif;
  font-weight: normal;
}
h1 strong {
  font-weight: normal;
  color: #0E1520;
}
#top-nav {
  position: absolute;
  top: 15px;
  left: 414px;
  width: 266px;
  height: 269px;
  background: #00709e bottom left url(img/header.jpg) no-repeat;
}
#top-nav ul {
  text-align: center;
  line-height: 32px;
}
#top-nav li {
  display: inline;
  font-size: 12px;
  color: #fff;
}
#top-nav a {
  text-decoration: none;
  font-weight: normal;
  color: #fff;
}
#top-nav a:hover {
  text-decoration: underline;
}

#mmagic {
  background: url(img/media_magic.jpg) no-repeat;
  position: absolute;
  top: 46px;
  left: 680px;
  width: 48px;
  height: 238px;
}
#header {
  background: url(img/header_bg.jpg) no-repeat;
  position: absolute;
  top: 89px;
  left: 0px;
  width: 414px;
  height: 195px;
}

/** body **/
#spacer {
  height: 285px;
}

#body {
```

`` `

```
  background: url(img/body_bg.jpg) repeat-y;
  width: 100%;
}

#left {
  float: left;
  width: 412px;
}
#right {
  float: right;
  width: 312px;
}

#nav ul {
}
#nav li {
  float: left;
  width: 102px;
  height: 34px;
  line-height: 34px;
  text-align: center;
  background: url(img/tab_lit.jpg) repeat-x;
  border-left: 1px solid white;
  list-style: none;
}
#nav a {
  font: 16px "Times new roman", serif;
  color: #ffffff;
  text-decoration: none;
}
#nav a:hover {
  text-decoration: underline;
}
#nav li.drk {
  background: url(img/tab_drk.jpg) repeat-x;
  border-left: none;
  padding-left: 1px;
}

#visit {
  background: #e5f0f7;
  padding: 15px 40px 14px 36px;
}
#visit h2 {
  font: 24px "Times new roman", serif;
}
#visit a {
  text-decoration: none;
}
#visit a:hover {
  text-decoration: underline;
}

#subs-left {
  float: left;
  width: 160px;
  padding-left: 35px;
  padding-bottom: 10px;
  margin-top: 22px;
}
#subs-right {
  float: right;
  width: 145px;
  padding-right: 30px;
  padding-bottom: 10px;
  margin-top: 22px;
}
#subs-left a {
  color: #fff;
}
#subs-left {
  color: #fff;
}
#subs-left h3 {
  color: #000000;
  font: 16px "Times new roman", serif;
}
#subs-left p {
  text-align: justify;
}
```

```
#subs-right {
  color: #fff;
}
#subs-right h3 {
  color: #000000;
  padding-left: 20px;
  padding-bottom: 14px;
  font: 16px "Times new roman", serif;
}
#subs-right h4 {
  color: #000000;
  font: 14px "Times new roman", serif;
  margin: 0.6em 0;
}
#subs-right ul {
  margin-top: 1em;
}
#subs-right li {
  list-style: none;
  padding-left: 20px;
  background: 5px 3px url(img/bullet.jpg) no-repeat;
}
#subs-right p {
  text-align: justify;
  margin: 0.6em 0;
}

#right-i {
  padding: 4px 25px 0 20px;
}
#right h2 {
  color: #323E51;
  font: 22px "Times new roman", serif;
  margin-bottom: 12px;
}
#right h3 {
  color: #000000;
  font: 14px "Times new roman", serif;
  margin-bottom: 5px;
}
#right p {
  margin-top: 0;
  color: #163348;
}
#right .left {
  margin-right: 4px;
}
#right a {
  color: #163348;
  font-weight: bold;
  text-decoration: none;
}
#right a:hover {
  text-decoration: underline;
}

/** footer **/
#copyright {
  background: #00709e;
  color: #fff;
  text-align: center;
  font-size: 11px;
  float: right;
  width: 315px;
  padding: 10px 0;
  margin-bottom: 20px;
}
#copyright p {
  margin: 0;
  padding: 0;
}
```

gen_validatorv31.js

```
/*
  ----------------------------------------------------------------------
```

```
`




                          JavaScript Form Validator
(gen_validatorv31.js)
          Version 3.1.1
                Copyright (C) 2003-2008 JavaScript-Coder.com. All rights
reserved.
                You can freely use this script in your Web pages.
                You may adapt this script for your own needs, provided these
opening credit
   lines are kept intact.

                The Form validation script is distributed free from JavaScript-
Coder.com
                For updates, please visit:
                http://www.javascript-coder.com/html-form/javascript-form-
validation.phtml

                Questions & comments please send to form.val at javascript-
coder.com
   ------------------------------------------------------------------------
*/
function Validator(frmname)
{
  this.formobj=document.forms[frmname];
                if(!this.formobj)
                {
                  alert("Error: couldnot get Form object "+frmname);
                                return;
                }
                if(this.formobj.onsubmit)
                {
                 this.formobj.old_onsubmit = this.formobj.onsubmit;
                 this.formobj.onsubmit=null;
                }
                else
                {
                 this.formobj.old_onsubmit = null;
                }
                this.formobj._sfm_form_name=frmname;
                this.formobj.onsubmit=form_submit_handler;
                this.addValidation = add_validation;
                this.setAddnlValidationFunction=set_addnl_vfunction;
                this.clearAllValidations = clear_all_validations;
   this.disable_validations = false;//new
   document.error_disp_handler = new sfm_ErrorDisplayHandler();
   this.EnableOnPageErrorDisplay=validator_enable_OPED;
                this.EnableOnPageErrorDisplaySingleBox=validator_enable_O
PED_SB;
   this.show_errors_together=true;
   this.EnableMsgsTogether=sfm_enable_show_msgs_together;
}
function set_addnl_vfunction(functionname)
{
  this.formobj.addnlvalidation = functionname;
}
function sfm_enable_show_msgs_together()
{
   this.show_errors_together=true;
   this.formobj.show_errors_together=true;
}
function clear_all_validations()
{
                for(var itr=0;itr < this.formobj.elements.length;itr++)
                {
                                this.formobj.elements[itr].validationset = null;
                }
}
function form_submit_handler()
{
   var bRet = true;
   document.error_disp_handler.clear_msgs();
                for(var itr=0;itr < this.elements.length;itr++)
                {
                                if(this.elements[itr].validationset &&
                  !this.elements[itr].validationset.validate())
                                {
                                 bRet = false;
                                }
     if(!bRet && !this.show_errors_together)
     {
      break;
```

```
                }
                }
   if(!bRet)
   {
     document.error_disp_handler.FinalShowMsg();
     return false;
   }

                if(this.addnlvalidation)
                {
                 str =" var ret = "+this.addnlvalidation+"()";
                 eval(str);
     if(!ret) return ret;
                }
                return true;
}
function add_validation(itemname,descriptor,errstr)
{
                var condition = null;
                if(arguments.length > 3)
                {
                 condition = arguments[3];
                }
   if(!this.formobj)
                {
                                alert("Error: The form object is not set properly");
                                return;
                }//if
                var itemobj = this.formobj[itemname];
   if(itemobj.length && isNaN(itemobj.selectedIndex) )
   //for radio button; don't do for 'select' item
                {
                                itemobj = itemobj[0];
                }
   if(!itemobj)
                {
                                alert("Error: Couldnot get the input object named:
"+itemname);
                                return;
                }
                if(!itemobj.validationset)
                {
                                itemobj.validationset = new
ValidationSet(itemobj,this.show_errors_together);
                }
                itemobj.validationset.add(descriptor,errstr,condition);
   itemobj.validatorobj=this;
}
function validator_enable_OPED()
{
   document.error_disp_handler.EnableOnPageDisplay(false);
}

function validator_enable_OPED_SB()
{
                document.error_disp_handler.EnableOnPageDisplay(true);
}
function sfm_ErrorDisplayHandler()
{
  this.msgdisplay = new AlertMsgDisplayer();
  this.EnableOnPageDisplay= edh_EnableOnPageDisplay;
  this.ShowMsg=edh_ShowMsg;
  this.FinalShowMsg=edh_FinalShowMsg;
  this.all_msgs=new Array();
  this.clear_msgs=edh_clear_msgs;
}
function edh_clear_msgs()
{
   this.msgdisplay.clearmsg(this.all_msgs);
   this.all_msgs = new Array();
}
function edh_FinalShowMsg()
{
   this.msgdisplay.showmsg(this.all_msgs);
}
function edh_EnableOnPageDisplay(single_box)
{
                if(true == single_box)
                {
                                this.msgdisplay = new SingleBoxErrorDisplay();
```

```
`




                              }
                              else
                              {
                                            this.msgdisplay = new DivMsgDisplayer();

                              }
}
function edh_ShowMsg(msg,input_element)
{

  var objmsg = new Array();
  objmsg["input_element"] = input_element;
  objmsg["msg"] =  msg;
  this.all_msgs.push(objmsg);
}
function AlertMsgDisplayer()
{
 this.showmsg = alert_showmsg;
 this.clearmsg=alert_clearmsg;
}
function alert_clearmsg(msgs)
{


}
function alert_showmsg(msgs)
{
  var whole_msg="";
  var first_elmnt=null;
  for(var m in msgs)
  {
    if(null == first_elmnt)
    {
      first_elmnt = msgs[m]["input_element"];
    }
    whole_msg += msgs[m]["msg"] + "\n";
  }

  alert(whole_msg);

  if(null != first_elmnt)
  {
    first_elmnt.focus();
  }
}
function sfm_show_error_msg(msg,input_elmt)
{
  document.error_disp_handler.ShowMsg(msg,input_elmt);
}
function SingleBoxErrorDisplay()
{
 this.showmsg=sb_div_showmsg;
 this.clearmsg=sb_div_clearmsg;
}

function sb_div_clearmsg(msgs)
{
          var divname = form_error_div_name(msgs);
          show_div_msg(divname,"");
}

function sb_div_showmsg(msgs)
{
          var whole_msg="<ul>\n";
          for(var m in msgs)
  {
    whole_msg += "<li>" + msgs[m]["msg"] + "</li>\n";
  }
          whole_msg += "</ul>";
          var divname = form_error_div_name(msgs);
          show_div_msg(divname,whole_msg);
}
function form_error_div_name(msgs)
{
          var input_element= null;

          for(var m in msgs)
          {
           input_element = msgs[m]["input_element"];
           if(input_element){break;}
          }
```

```
          var divname ="";
          if(input_element)
          {
           divname = input_element.form._sfm_form_name +
"_errorloc";
          }

          return divname;

}
function DivMsgDisplayer()
{
 this.showmsg=div_showmsg;
 this.clearmsg=div_clearmsg;
}
function div_clearmsg(msgs)
{
  for(var m in msgs)
  {
     var divname = element_div_name(msgs[m]["input_element"]);
     show_div_msg(divname,"");
  }
}
function element_div_name(input_element)
{
 var divname = input_element.form._sfm_form_name + "_" +
          input_element.name + "_errorloc";

 divname = divname.replace(/[\[\]]/gi,"");

 return divname;
}
function div_showmsg(msgs)
{
  var whole_msg;
  var first_elmnt=null;
  for(var m in msgs)
  {
     if(null == first_elmnt)
     {
        first_elmnt = msgs[m]["input_element"];
     }
     var divname = element_div_name(msgs[m]["input_element"]);
     show_div_msg(divname,msgs[m]["msg"]);
  }
  if(null != first_elmnt)
  {
     first_elmnt.focus();
  }
}
function show_div_msg(divname,msgstring)
{
          if(divname.length<=0) return false;

          if(document.layers)
          {
                  divlayer = document.layers[divname];
    if(!divlayer){return;}
                  divlayer.document.open();
                  divlayer.document.write(msgstring);
                  divlayer.document.close();
          }
          else
          if(document.all)
          {
                  divlayer = document.all[divname];
    if(!divlayer){return;}
                  divlayer.innerHTML=msgstring;
          }
          else
          if(document.getElementById)
          {
                  divlayer = document.getElementById(divname);
    if(!divlayer){return;}
                  divlayer.innerHTML =msgstring;
          }
          divlayer.style.visibility="visible";
          return false;

}
function ValidationDesc(inputitem,desc,error,condition)
```

```
`




{
 this.desc=desc;
            this.error=error;
            this.itemobj = inputitem;
            this.condition = condition;
            this.validate=vdesc_validate;
}
function vdesc_validate()
{
            if(this.condition != null )
            {
                        if(!eval(this.condition))
                        {
                                    return true;
                        }
            }
            if(!validateInput(this.desc,this.itemobj,this.error))
            {
                        this.itemobj.validatorobj.disable_validations=true;
                        this.itemobj.focus();
                        return false;
            }
            return true;
}
function ValidationSet(inputitem,msgs_together)
{
   this.vSet=new Array();
            this.add= add_validationdesc;
            this.validate= vset_validate;
            this.itemobj = inputitem;
   this.msgs_together = msgs_together;
}
function add_validationdesc(desc,error,condition)
{
 this.vSet[this.vSet.length]=
 new ValidationDesc(this.itemobj,desc,error,condition);
}
function vset_validate()
{
   var bRet = true;
   for(var itr=0;itr<this.vSet.length;itr++)
   {
      bRet = bRet && this.vSet[itr].validate();
      if(!bRet && !this.msgs_together)
      {
         break;
      }
   }
   return bRet;
}
function validateEmail(email)
{
   var splitted = email.match("^(.+)@(.+)$");
   if(splitted == null) return false;
   if(splitted[1] != null )
   {
    var regexp_user=/^\"?[\w-_\.]*\"?$/;
    if(splitted[1].match(regexp_user) == null) return false;
   }
   if(splitted[2] != null)
   {
    var regexp_domain=/^[\w-\.]*\.[A-Za-z]{2,4}$/;
    if(splitted[2].match(regexp_domain) == null)
    {
                var regexp_ip =/^\[\d{1,3}\.\d{1,3}\.\d{1,3}\.\d{1,3}\]$/;
                if(splitted[2].match(regexp_ip) == null) return false;
    }// if
    return true;
   }
 return false;
}

function IsCheckSelected(objValue,chkValue)
{
   var selected=false;
            var objcheck = objValue.form.elements[objValue.name];
   if(objcheck.length)
            {
                        var idxchk=-1;
                        for(var c=0;c < objcheck.length;c++)
```

```
                        {
                          if(objcheck[c].value == chkValue)
                          {
                           idxchk=c;
                                    break;
                          }//if
                        }//for
                        if(idxchk>= 0)
                        {
                         if(objcheck[idxchk].checked=="1")
                         {
                          selected=true;
                         }//if
            }
            else
            {
                        if(objValue.checked == "1")
                        {
                                    selected=true;
                        }//if
            }//else

            return selected;
}
function TestDontSelectChk(objValue,chkValue,strError)
{
            var pass = true;
            pass = IsCheckSelected(objValue,chkValue)?false:true;

            if(pass==false)
            {
   if(!strError || strError.length ==0)
     {
            strError = "Can't Proceed as you selected "+objValue.name;
     }//if
            sfm_show_error_msg(strError,objValue);

            }
   return pass;
}
function TestShouldSelectChk(objValue,chkValue,strError)
{
            var pass = true;

            pass = IsCheckSelected(objValue,chkValue)?true:false;

            if(pass==false)
            {
   if(!strError || strError.length ==0)
     {
            strError = "You should select"+objValue.name;
     }//if
            sfm_show_error_msg(strError,objValue);

            }
   return pass;
}
function TestRequiredInput(objValue,strError)
{
 var ret = true;
 var val = objValue.value;
 val = val.replace(/^\s+|\s+$/g,"");//trim
   if(eval(val.length) == 0)
   {
     if(!strError || strError.length ==0)
     {
       strError = objValue.name + " : Required Field";
     }//if
     sfm_show_error_msg(strError,objValue);
     ret=false;
   }//if
return ret;
}
function TestMaxLen(objValue,strMaxLen,strError)
{
 var ret = true;
   if(eval(objValue.value.length) > eval(strMaxLen))
   {
     if(!strError || strError.length ==0)
```

```
`
      {                                                    if(isNaN(objValue.value))
       strError = objValue.name + " : "+ strMaxLen +" characters maximum        {
";                                                           sfm_show_error_msg(objValue.name+": Should be a number
      }//if                                               ",objValue);
      sfm_show_error_msg(strError,objValue);                 ret = false;
      ret = false;                                         }//if
     }//if                                                         else
 return ret;                                                 if(eval(objValue.value) <=  eval(strGreaterThan))
 }                                                           {
 function TestMinLen(objValue,strMinLen,strError)             if(!strError || strError.length ==0)
 {                                                            {
  var ret = true;                                             strError = objValue.name + " : value should be greater than "+
    if(eval(objValue.value.length) <  eval(strMinLen))      strGreaterThan;
     {                                                         }//if
     if(!strError || strError.length ==0)                      sfm_show_error_msg(strError,objValue);
      {                                                         ret = false;
      strError = objValue.name + " : " + strMinLen + " characters minimum     }//if
";                                                       return ret;
      }//if                                              }
      sfm_show_error_msg(strError,objValue);             function TestRegExp(objValue,strRegExp,strError)
      ret = false;                                       {
     }//if                                               var ret = true;
 return ret;                                                if( objValue.value.length > 0 &&
 }                                                            !objValue.value.match(strRegExp) )
 function TestInputType(objValue,strRegExp,strError,strDefaultError)   {
 {                                                            if(!strError || strError.length ==0)
   var ret = true;                                           {
                                                             strError = objValue.name+": Invalid characters found ";
   var charpos = objValue.value.search(strRegExp);           }//if
   if(objValue.value.length > 0 &&  charpos >= 0)             sfm_show_error_msg(strError,objValue);
    {                                                         ret = false;
   if(!strError || strError.length ==0)                     }//if
     {                                                   return ret;
      strError = strDefaultError;                         }
     }//if                                                function TestDontSelect(objValue,dont_sel_index,strError)
    sfm_show_error_msg(strError,objValue);                {
    ret = false;                                          var ret = true;
    }//if                                                    if(objValue.selectedIndex == null)
  return ret;                                                {
 }                                                            sfm_show_error_msg("ERROR: dontselect command for non-select
 function TestEmail(objValue,strError)                    Item");
 {                                                            ret =  false;
 var ret = true;                                             }
    if(objValue.value.length > 0 && !validateEmail(objValue.value)     if(objValue.selectedIndex == eval(dont_sel_index))
 )                                                          {
    {                                                        if(!strError || strError.length ==0)
     if(!strError || strError.length ==0)                    {
      {                                                      strError = objValue.name+": Please Select one option ";
       strError = objValue.name+": Enter a valid Email address ";   }//if
      }//if                                                   sfm_show_error_msg(strError);
     sfm_show_error_msg(strError,objValue);                   ret =  false;
     ret = false;                                            }
    }//if                                                 return ret;
 return ret;                                              }
 }                                                        function TestSelectOneRadio(objValue,strError)
 function TestLessThan(objValue,strLessThan,strError)     {
 {                                                                 var objradio = objValue.form.elements[objValue.name];
 var ret = true;                                                   var one_selected=false;
              if(isNaN(objValue.value))                            for(var r=0;r < objradio.length;r++)
                {                                                  {
                 sfm_show_error_msg(objValue.name +": Should be a         if(objradio[r].checked == "1")
 number ",objValue);                                               {
                 ret = false;                                               one_selected=true;
                }//if                                                       break;
                else                                             }
                if(eval(objValue.value) >=  eval(strLessThan))   }
                {                                                 if(false == one_selected)
                 if(!strError || strError.length ==0)            {
                 {                                            if(!strError || strError.length ==0)
                  strError = objValue.name + " : value should be less than "+    {
 strLessThan;                                                            strError = "Please select one option from "+objValue.name;
                }//if                                                     }
                 sfm_show_error_msg(strError,objValue);            sfm_show_error_msg(strError,objValue);
                 ret = false;                                      }
                }//if                                    return one_selected;
 return ret;                                              }
 }
 function TestGreaterThan(objValue,strGreaterThan,strError)   function validateInput(strValidateStr,objValue,strError)
 {
 var ret = true;                                          {
                                                           var ret = true;
```

```
`
    var epos = strValidateStr.search("=");
    var command = "";
    var cmdvalue = "";
    if(epos >= 0)
    {
     command = strValidateStr.substring(0,epos);
     cmdvalue = strValidateStr.substr(epos+1);
    }
    else
    {
     command = strValidateStr;
    }
    switch(command)
    {
      case "req":
      case "required":
       {
                            ret = TestRequiredInput(objValue,strError)
         break;
       }//case required
      case "maxlength":
      case "maxlen":
       {
                                ret =
    TestMaxLen(objValue,cmdvalue,strError)
           break;
       }//case maxlen
      case "minlength":
      case "minlen":
       {
                                ret =
    TestMinLen(objValue,cmdvalue,strError)
           break;
        }//case minlen
      case "alnum":
      case "alphanumeric":
       {
                                            ret =
    TestInputType(objValue,"[^A-Za-z0-9]",strError,

                objValue.name+": Only alpha-numeric characters allowed ");
                                                break;
       }
      case "alnum_s":
      case "alphanumeric_space":
       {
                                            ret =
    TestInputType(objValue,"[^A-Za-z0-9\\s]",strError,

                objValue.name+": Only alpha-numeric characters and space
    allowed ");
                                                break;
       }
      case "num":
      case "numeric":
       {
           ret = TestInputType(objValue,"[^0-9]",strError,

             objValue.name+": Only digits allowed ");
           break;
       }
      case "dec":
      case "decimal":
       {
           ret = TestInputType(objValue,"[^0-9\.]",strError,

             objValue.name+": Only numbers allowed ");
           break;
       }
      case "alphabetic":
      case "alpha":
       {
           ret = TestInputType(objValue,"[^A-Za-z]",strError,

             objValue.name+": Only alphabetic characters allowed ");
           break;
       }
      case "alphabetic_space":
      case "alpha_s":
       {

                ret = TestInputType(objValue,"[^A-Za-z\\s]",strError,

                objValue.name+": Only alphabetic characters and space
    allowed ");
             break;
       }
      case "email":
       {
                                       ret = TestEmail(objValue,strError);
             break;
       }
      case "lt":
      case "lessthan":
       {
                ret = TestLessThan(objValue,cmdvalue,strError);
           break;
       }
      case "gt":
      case "greaterthan":
       {
                                 ret =
    TestGreaterThan(objValue,cmdvalue,strError);
             break;
       }//case greaterthan
      case "regexp":
       {
                                 ret =
    TestRegExp(objValue,cmdvalue,strError);
           break;
       }
      case "dontselect":
       {
                                 ret =
    TestDontSelect(objValue,cmdvalue,strError)
           break;
       }
                case "dontselectchk":
                 {
                                 ret =
    TestDontSelectChk(objValue,cmdvalue,strError)
                                break;
                 }
                case "shouldselchk":
                 {
                                 ret =
    TestShouldSelectChk(objValue,cmdvalue,strError)
                                break;
                 }
                case "selone_radio":
                 {
                                 ret =
    TestSelectOneRadio(objValue,strError);
                                break;
                 }
     }//switch
            return ret;
}
function VWZ_IsListItemSelected(listname,value)
{
 for(var i=0;i < listname.options.length;i++)
 {
  if(listname.options[i].selected == true &&
  listname.options[i].value == value)
  {
   return true;
  }
 }
 return false;
}
function VWZ_IsChecked(objcheck,value)
{
 if(objcheck.length)
 {
    for(var c=0;c < objcheck.length;c++)
    {
     if(objcheck[c].checked == "1" &&
                objcheck[c].value == value)
     {
      return true;
     }
```

`

```
    }
}
else
{
 if(objcheck.checked == "1" )
  {
   return true;
  }
}
 return false;
}
/*
            Copyright (C) 2003-2008 JavaScript-Coder.com . All rights
reserved.
*/
```

toggle.js

```
function toggle(toggled,anID){
            var div = document.getElementById(anID);
            var prevdiv = document.getElementById(toggled);
            if(div.style.display=="none") div.style.display = "block";
            else if (div.style=="block") div.style.display = "none";
            prevdiv.style.display = "none";
}
```

authenticate.php

```php
<?php
/**
 * Authenticate Page
 * Source Code for user session authentication.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php        session_start();
            $username = $_POST['username'];
            $password = md5($_POST['password']);

            include_once("dbconnect.php");

            $result = mysql_query("SELECT * FROM user WHERE
username = '$username' AND password = '$password'");
            $numberOfRows = mysql_num_rows($result);

            if($numberOfRows == 1){
                        $_SESSION['status'] = 'logged-in';
                        header('Location:index.php');
            }
            else{
                        header('Location:index.php');
            }
            ?>
```

dbconnect.php

```php
<?php
/**
 * Database Connect
 * Source Code for accessing PharmExSys database.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
```

```php
<?php
            $dbHost = "localhost";
            $dbUser = "root";
            $dbPass = "";

            $link = @mysql_pconnect($dbHost, $dbUser, $dbPass);
            if (!$link) { die("MySQL Connection error: " . mysql_error());
}

            $dbName = "pharmexsys";
            mysql_select_db($dbName) or die("Couldn't open $dbName: "
. mysql_error());

?>
```

header.php

```php
<?php
/**
 * Header
 * Source Code for PharmExSys Header.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php
error_reporting(E_ERROR | E_WARNING | E_PARSE);
?>
<html>
<head>
            <title></title>
            <link rel="stylesheet" href="layout.css" type="text/css"
charset="utf-8" />
            <meta http-equiv="Content-Type" content="text/html;
charset=iso-8859-1">
</head>
            <div id="header">
                        <map name="menumap">
                                    <area href="index.php" shape="rect"
coords="172, 145, 235, 206" target="_top">
                                    <area href="healthconcern.php"
shape="rect" coords="262, 157, 324, 217" target="_top">
                                    <area href="medications.php"
shape="rect" coords="355, 163, 416, 226" target="_top">
                                    <area href="tutorial.php"
shape="rect" coords="445, 155, 507, 218"target="_top">
                                    <area href="assessment.php"
shape="rect" coords="534, 143, 597, 206" target="_top">
                        </map>
                        <img src="/pharmexsys/img/header.png"
border="0" usemap="#menumap">
            </div>

</html>
```

header_frame.php

```php
<?php
/**
 * Header Frame
 * Source Code for PharmExSys header frame.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
```

`

```
<html>
<head>
            <title></title>
            <link rel="stylesheet" href="layout.css" type="text/css"
charset="utf-8" />
            <meta http-equiv="Content-Type" content="text/html;
charset=iso-8859-1">
</head>
            <div id="header">
                        <img src="/pharmexsys/img/header_frame.png"
border="0">
            </div>

</html>
```

footer.php

```
<?php
/**
 * Footer
 * Source Code for PharmExSys footer.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
 ?>
```

```
<html>
<head>
            <title></title>
            <link rel="stylesheet" href="layout.css" type="text/css"
charset="utf-8" />
            <meta http-equiv="Content-Type" content="text/html;
charset=iso-8859-1">
</head>
<body>
            <div id="footer">
                        <img src="/pharmexsys/img/footer.png"
border="0">
            </div>
</body>
</html>
```

footer_frame.php

```
<?php
/**
 * Footer Frame
 * Source Code for PharmExSys footer frame.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
 ?>
```

```
<html>
            <head>
                        <title></title>
                        <link rel="stylesheet" href="layout.css"
type="text/css" charset="utf-8" />
                        <meta http-equiv="Content-Type"
content="text/html; charset=iso-8859-1">
            </head>
            <body>
                        <div id="footer">
                                    <img
src="/pharmexsys/img/footer_frame.png" border="0">
            </div>
            </body>
</html>
```

index.php

```
<?php
/**
 * Index Page
 * Source Code for the PharmExSys index page.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
 ?>
```

```
<?php
session_start();
?>
<html>
            <div id="bg">
            <head>
                        <title>PharmExSys</title>
                        <script language="JavaScript"
src="gen_validatorv31.js" type="text/javascript"></script>
                        <link rel="stylesheet" href="layout.css"
type="text/css" charset="utf-8" />
                        <meta http-equiv="Content-Type"
content="text/html; charset=iso-8859-1">
            </head>
                        <div id="header">
                                    <map name="menumap">
                                                <area href="index.php"
shape="rect" coords="172, 145, 235, 206" target="_top">
                                                <area
href="healthconcern.php" shape="rect" coords="262, 157, 324, 217"
target="_top">
                                                <area
href="medications.php" shape="rect" coords="355, 163, 416, 226"
target="_top">
                                                <area href="tutorial.php"
shape="rect" coords="445, 155, 507, 218"target="_top">
                                                <area
href="assessment.php" shape="rect" coords="534, 143, 597, 206"
target="_top">
                                    </map>
                                    <img
src="/pharmexsys/img/header_home.png" border="0"
usemap="#menumap">
                        </div>
                        <table background="/pharmexsys/img/home.png"
border="0" height="294" width="770" align="center">
                        <tr><td></tr><td>
                        </table>
                                    <div align="center">
                                    <table>
                                    <tr>
                                                <td
background="/pharmexsys/img/footer.png" width="768.5" align="left">
```

`

<?php
if(($_SESSION['status'] == '')){ ?>
    <form name="loginForm" method="POST" action="authenticate.php">

        <p>Username: <input type="text" name="username">

        Password: <input type="password" name="password">

        <input type="submit" name="submitForm" value="Ok"></p>
    </form>
    <script>

        var frmvalidator = new Validator("loginForm");

        frmvalidator.addValidation("username","req","Please enter the Username");

        frmvalidator.addValidation("password","req","Please enter the Password");
    </script>
<?php
}if($_SESSION['status'] == 'logged-in'){ ?>

    <center>Welcome back Admin!</center>

        <center>| Logout |</center>
<?php } ?>
        <center>Copyright Manansala 2010. All rights reserved.
                    </td>
                </tr>
            </div>
</html>

add_assessment.php

```
<?php
/**
* Add Assessment
* Source Code for adding Tutorial Questions and Answers.
*
* @package    PharmExSys
* @author     Renzon Greg D. Manansala - BS Computer Science
* @copyright  2010
* PHP version 5
*
* LICENSE: This source file is subject to version 3.01 of the PHP license
* that is available through the world-wide-web at the following URI:
* http://www.php.net/license/3_01.txt.
*/
?>

<?php       session_start();
        if($_SESSION['status'] == 'logged-in') {
        print "<div id='bg'>";
        include "header.php";
?>
<html>
        <head>
        <title>Add a Tutorial</title>
        <script language="JavaScript" src="gen_validatorv31.js" type="text/javascript"></script>
        </head>
                <div id="body">
                <body>
                <form name="addAssessmentForm" method="POST" action="insert_assessment.php">
                    <table align="center" border="0" width="770px" bgcolor="white">
                            <tr>
                                <td align="center"><b>Question:<br></b></td>
```

                </tr>
                <tr align="center" height="20">
                        <td><textarea name="questions" size="60"></textarea>
                        <!--input type="text" name="questions" size="60"--></td>
                </tr>
                <tr>
                        <td align="center">Answer:
</td>
                </tr>
                <tr align="center" height="20">
                        <td><input type="text" name="answer_key" size="50"></td>
                </tr>
                <tr>
                        <td align="center">Choices:
</td>
                </tr>
                <tr align="center" height="20">
                        <td><textarea rows="5" cols="40" name="choices">please input the choices separated by #</textarea></td>
                </tr>
                <tr><td align="center"><input type="submit" name="submitAddAssessmentForm" value="Add Assessment">
                        <input type="reset" name="resetForm" value="Clear Form">
                        Back</td>
                </tr>
            </table>
        </form>
        <script>
                var frmvalidator = new Validator("addAssessmentForm");

        frmvalidator.addValidation("questions","req","Please enter the Question");

        frmvalidator.addValidation("answer_key","req","Please enter the Answer");

        frmvalidator.addValidation("choices","req","Please enter the Choices");
        </script>
        </body>
        </div>
</html>

<?php include "footer.php";
        print "</div>";
        }
else{
                header('Location:index.php');
        }
?>

add_healthconcern.php

```
<?php
/**
* Add Health Concern
* Source Code for adding Health Concern details.
*
* @package    PharmExSys
* @author     Renzon Greg D. Manansala - BS Computer Science
* @copyright  2010
* PHP version 5
*
* LICENSE: This source file is subject to version 3.01 of the PHP license
* that is available through the world-wide-web at the following URI:
* http://www.php.net/license/3_01.txt.
*/
?>

<?php       session_start();
        if($_SESSION['status'] == 'logged-in') {
```

```php
                `



                print "<div id='bg'>";
                include "header.php";
?>
<html>
        <center>
        <head>
                <script language="JavaScript"
src="gen_validatorv31.js" type="text/javascript"></script>
                <script language="javascript">
                        var addRowCount = 2;
                        var addRuleRowCount = 2;

                function addRow(tableID) {
                        var table =
document.getElementById(tableID);

                        var rowCount =
table.rows.length;

                        var row =
table.insertRow(rowCount);

                        var cell1 =
row.insertCell(0);

                        var element1 =
document.createElement("input");

                        element1.type =
"checkbox";

                        cell1.appendChild(element1);

                        //var cell2 =
row.insertCell(1);

                        //cell2.innerHTML =
rowCount + 1;

                        var cell2 =
row.insertCell(1);

                        var element2 =
document.createElement("textarea");

                        //element2.type =
"textarea";

                        element2.cols = "40";
                        element2.rows = "1";
                        element2.name =
"hcsymptoms" + addRowCount;

                        addRowCount++;

                        cell2.appendChild(element2);

                }

                function addRuleRow(tableID) {
                        var table =
document.getElementById(tableID);

                        var rowCount =
table.rows.length;

                        var row =
table.insertRow(rowCount);

                        var cell1 =
row.insertCell(0);

                        var element1 =
document.createElement("input");

                        element1.type =
"checkbox";

                        cell1.appendChild(element1);

                        //var cell2 =
row.insertCell(1);

                        //cell2.innerHTML =
rowCount + 1;

                        var cell2 =
row.insertCell(1);

                        var element2 =
document.createElement("textarea");

                        //element2.type =
"textarea";

                        element2.cols = "40";
                        element2.rows = "1";
                        element2.name =
"hcrules" + addRuleRowCount;

                        addRuleRowCount++;

                        cell2.appendChild(element2);

                }

                function deleteRow(tableID) {
        try {
                                var table =
document.getElementById(tableID);
                                var
rowCount = table.rows.length;

                for(var i=0; i<rowCount; i++) {
                        var row = table.rows[i];
                                var chkbox
= row.cells[0].childNodes[0];
                if(null != chkbox && true == chkbox.checked) {
                                table.deleteRow(i);

                        rowCount--;

                i--;
                        }
                }
                        }catch(e) {
                alert(e);
                        }
                        }
                        </script>
                <head>
                <body>
                        <form name="addMedicationForm"
method="POST" action="insert_healthconcern.php">
                                <table width="770px" bgcolor="white"
align="center" >
                                        <tr>
                                                <td
align="left"><b>HEALTH CONCERN</b></td>
                                        </tr>
                                        <tr valign="top" height="40">
                                                <td
align="right"><b>Health Concern Name:</b></td>
                                                <td> <input type="text"
name="health_concern_name" size="40"></td>
                                        </tr>
                                        <tr valign="top" height="40">
                                                <td
align="right"><b>Description:</b></td>
                                                <td><textarea rows="5"
name="health_concern_desc" cols="60"></textarea></td>
                                        </tr>
                                        <tr>
                                                <td
align="left"><b>Symptom/s:</b></td>
                                        </tr>
                                </table>

                                <table id="symptomsTable" width="770px"
bgcolor="white" align="center">
                                        <tr>
                                                <td><input
type="checkbox" name="chk"/></td>
                                                <td><textarea
name="hcsymptoms1" rows="1" cols="40"></textarea></td>
                                        </tr>
                                </table>

                                <table width="770px" bgcolor="white"
align="center">
                                        <tr><td><input type="button" value="Add
Symptom" onclick="addRow('symptomsTable')" /></td></tr>
                                        <tr><td><input type="button" value="Delete
Symptom" onclick="deleteRow('symptomsTable')" /><hr></td></tr>
                                </table>
```

```
                              <table width="770px" bgcolor="white"
align="center" >
                                        <tr>
                                                  <td
align="left"><b>ADVICE</b></td>
                                        </tr>
                                        <tr valign="top" height="40">
                                                  <td
align="right"><b>Patient Advice:</b></td>
                                                  <td><textarea rows="6"
name="patient_advice" cols="60"></textarea></td>
                                        </tr>
                                        <tr valign="top" height="40">
                                                  <td
align="right"><b>Treatment Option:</b></td>
                                                  <td><textarea rows="6"
name="treatment_option" cols="60"></textarea></td>
                                        </tr>
                                        <tr>
                                                  <td><br></td>
                                        </tr>
                              </table>

                              <table width="770px" bgcolor="white"
align="center" >
                                        <tr><td><hr></td></tr>
                                        <tr><td
align="left"><b>RULES</b></td></tr>
                              </table>

                              <table id="ruleTable" width="770px"
bgcolor="white" align="center">
                                        <tr>
                                                  <td><input
type="checkbox" name="chk"/></td>
                                                  <td><textarea
name="hcrules1" rows="1" cols="40"></textarea></td>
                                        </tr>
                              </table>
                              <table width="770px" bgcolor="white"
align="center">
                                        <tr><td><input type="button" value="Add Rule"
onclick="addRuleRow('ruleTable')" /></td></tr>
                                        <tr><td><input type="button" value="Delete
Rule" onclick="deleteRow('ruleTable')" /></td></tr>
                              </table>
                              <input type="submit"
name="submitHealthConcern" value="Add Health Concern">
                              </form>
                    </body>
                    </center>
</html>


<?php include "footer.php";
          print "</div>";
          }
else{
                              header('Location:index.php');
          }
?>
```

add_medication.php

```
<?php
/**
 * Add Medication
 * Source Code for adding Medication details.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>
```

```
<?php       session_start();
            print "<div id='bg'>";
            include "header.php";
?>
<?php if($_SESSION['status'] == 'logged-in') {
            include_once("dbconnect.php");
?>
<html>
            <center>
            <head>
            <title>Add Medication</title>
            <script language="JavaScript" src="gen_validatorv31.js"
type="text/javascript"></script>
            </head>
            <body>
            <div id="body">
            <center>
            <form name="addMedicationForm" method="POST"
action="insert_medication.php">
            <table cellspacing="2" cellpadding="2" border="0"
width="100%">
                      <tr valign="top" height="20">
                      <?php
                                require "dbconnect.php";
                                $query = 'SELECT
health_concern_name FROM health_concern';
                                $result = mysql_query($query) or
die('Query failed: ' . mysql_error());
                                          print "<br><br><SELECT
NAME='thisHealthconcern_idField'>";
                                          print "<OPTION
SELECTED>Select a Health Concern</OPTION>";
                                          while ($option =
mysql_fetch_array($result, MYSQL_ASSOC)) {
                                                    foreach ($option as
$col_value) {

          $i++;

          print"<OPTION VALUE='$i'>$col_value<br></OPTION>";
                                                    }
                                          }
                                          print "</SELECT>";
                      ?>
                      </tr>
                      <tr valign="top" height="20">
                                <td align="right"> <b> Medication
Name :  </b> </td>
                                <td> <input type="text"
name="thisMedication_nameField" size="40" value=""> </td>
                      </tr>
                      <tr valign="top" height="20">
                                <td align="right"> <b> Medication
Clasification :  </b> </td>
                                <td> <input type="text"
name="thisMedication_classField" size="40" value=""> </td>
                      </tr>
                      <tr valign="top" height="20">
                                <td align="right"> <b> Type :  </b>
</td>
                                <td> <input type="text"
name="thisMedication_typeField" size="40" value=""> </td>
                      </tr>
                      <tr valign="top" height="20">
                                <td align="right"> <b> Manufacturer
:  </b> </td>
                                <td> <input type="text"
name="thisMedication_manufacturerField" size="40" value=""> </td>
                      </tr>
                      <tr valign="top" height="20">
                                <td align="right"> <b> Drug
Regulated Content :  </b> </td>
                                <td> <input type="text"
name="thisDrug_regulated_contentField" size="40" value=""> </td>
                      </tr>
                      <tr valign="top" height="20">
                                <td align="right"> <b> Indication :
</b> </td>
```

`

```html
                    <td><textarea
name="thisMedication_indicationField" rows="5" cols="40"
value=""></textarea>
                        </tr>
                        <tr valign="top" height="20">
                            <td align="right"> <b> Dosage :
</b> </td>
                    <td><textarea
name="thisMedication_dosageField" rows="5" cols="40"
value=""></textarea>
                        <!--td> <input type="text"
name="thisMedication_dosageField" size="20" value=""> </td-->
                        </tr>
                        <tr valign="top" height="20">
                            <td align="right"> <b> Oral
Administration :  </b> </td>
                    <td><textarea
name="thisMedication_oral_adminField" rows="5" cols="40"
value=""></textarea>
                        <!--d> <input type="text"
name="thisMedication_oral_adminField" size="20" value=""> </td-->
                        </tr>
                        <tr valign="top" height="20">
                            <td align="right"> <b> PPP Advice :
</b> </td>
                    <td> <input type="text"
name="thisMedication_ppp_adviceField" size="40" value=""> </td>
                        </tr>
                        <tr valign="top" height="20">
                            <td align="right"> <b>
Contraindication :  </b> </td>
                    <td><textarea
name="thisMedication_contraindicationField" rows="5" cols="40"
value=""></textarea>
                        <!--td> <input type="text"
name="thisMedication_contraindicationField" size="20" value=""> </td-->
                        </tr>
                        <tr valign="top" height="20">
                            <td align="right"> <b> Special
Precaution :  </b> </td>
                    <td><textarea
name="thisMedication_special_precautionField" rows="5" cols="40"
value=""></textarea>
                        <!--td> <input type="text"
name="thisMedication_special_precautionField" size="20" value=""> </td-
->
                        </tr>
                        <tr valign="top" height="20">
                            <td align="right"> <b> Adverse
Reaction :  </b> </td>
                    <td><textarea
name="thisMedication_adverse_reactionField" rows="5" cols="40"
value=""></textarea>
                        <!--td> <input type="text"
name="thisMedication_adverse_reactionField" size="40" value=""> </td-->
                        </tr>
                        <tr valign="top" height="20">
                            <td align="right"> <b> Drug
Interaction :  </b> </td>
                    <td><textarea
name="thisMedication_drug_indicationField" rows="5" cols="40"
value=""></textarea>
                        <!--td> <input type="text"
name="thisMedication_drug_indicationField" size="40" value=""> </td-->
                        </tr>
                        <tr valign="top" height="20">
                            <td align="right"> <b>
Presentation/Price :  </b> </td>
                    <td> <input type="text"
name="thisMedication_presentation_priceField" size="40" value=""> </td>
                        </tr>
                        <tr valign="top" height="20">
                            <td align="right"> <b> US Preg Cat :
</b> </td>
                    <td> <input type="text"
name="thisMedication_us_preg_catField" size="40" value=""> </td>
                        </tr>
                    </table>
                    <p>
```

```html
                    <input type="submit" name="submitAddMedicationForm"
value="Add Medication">
                        <input type="reset" name="resetForm" value="Clear Form">
                    </p>
                </form>
                </center>
                    <table align="center">
                    <?php if($_SESSION['status'] == 'logged-in') { ?>
                    <tr><td><div><li><a
href="add_medication.php">Add a New Medication</a></div></td></tr>
                    <?php } ?>
                    <tr><td><div><li><a
href="list_medication.php">List All Medications</a></div></td></tr>
                    <tr><td><div><li><a
href="medications.php">Search Medication</a></div></td></tr>
                    </table>
                </div>
                <script language="JavaScript" type="text/javascript">
                var frmvalidator  = new Validator("addMedicationForm");
                frmvalidator.addValidation("thisMedication_nameField","req,
"Please enter the Medication Name");
                frmvalidator.addValidation("thisMedication_classField","req","
Please enter the Medication Class");
                frmvalidator.addValidation("thisMedication_typeField","req","
Please enter the Medication Type");
                frmvalidator.addValidation("thisMedication_manufacturerField
","req","Please enter the Medication Manufacturer");
                frmvalidator.addValidation("thisDrug_regulated_contentField",
"req","Please enter the Drug Regulated Content ");
                frmvalidator.addValidation("thisMedication_indication","req","
Please enter the Medication Indication");
                frmvalidator.addValidation("thisMedication_dosageField","req
","Please enter the Medication Dosage");
                frmvalidator.addValidation("thisMedication_oral_adminField",
"req","Please enter the Medication Oral Administration");
                frmvalidator.addValidation("thisMedication_ppp_adviceField",
"req","Please enter the Medication PPP Advice");
                frmvalidator.addValidation("thisMedication_contraindicationFi
eld","req","Please enter the Medication Contraindication");
                frmvalidator.addValidation("thisMedication_special_precaution
_Field","req","Please enter the Special Precaution");
                frmvalidator.addValidation("thisMedication_adverse_reactionF
ield","req","Please enter the Adverse Reaction");
                frmvalidator.addValidation("thisMedication_drug_indicationFi
eld","req","Please enter the Drug Indication");
                frmvalidator.addValidation("thisMedication_presentation_price
Field","req","Please enter the Presentation/Price");
                frmvalidator.addValidation("thisMedication_us_preg_catField",
"req","Please enter the US Pregnancy Catalogue");
                frmvalidator.addValidation("thisMedication_us_preg_catField",
"req","Please enter the US Pregnancy Catalogue");
                </script>
                </body>
</html>
<?php
        include "footer.php";
        print "</div>";
        }//end of if
        else{
                header('Location:index.php');
        }
?>
```

add_tutorial.php
```php
<?php
/**
 * Add Tutorial
 * Source Code for adding Tutorial details.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>
```

`

```php
<?php      session_start();
           print "<div id='bg'>";
           include "header.php";
?>
<?php
           include_once("dbconnect.php");
           if($_SESSION['status'] == 'logged-in') {
?>
<html>
           <head>
           <title>Add a Tutorial</title>
           <script language="JavaScript" src="gen_validatorv31.js"
type="text/javascript"></script>
           </head>
           <body>
           <form name="addTutorialForm" method="POST"
action="insert_tutorial.php">

                          <table cellspacing="2" cellpadding="2"
border="0" width="770px" bgcolor="white" align="center">
                                  <tr valign="top" height="20">
                                          <td align="right"> <b>
Tutorial Name :  </b> </td>
                                          <td><input type="text"
name="thisTutorial_nameField" size="79"
value=""></input><br><br></td>
                                  </tr>
                                  <tr valign="top" height="20">
                                          <td align="right"> <b>
Lesson Name :  </b> </td>
                                          <td><input type="text"
name="thisTutorial_lesson_nameField" size="79"
value=""><br><br></input></td>
                                  </tr>
                                  <tr valign="top">
                                          <td align="right"> <b>
Discussion :  </b> </td>
                                          <td><textarea rows="20"
cols="60"
name="thisTutorial_lesson_discussionField"></textarea><br><br></td>
                                  </tr>
                                  <tr valign="top">
                                          <td align="right"> <b>
Other Information :  </b> </td>
                                          <td><textarea rows="5"
cols="60" name="thisTutorial_other_infoField"></textarea><br><br></td>
                                  </tr>
                                  <tr valign="top">
                                          <td align="right"> <b>
References :  </b> </td>
                                          <td><textarea rows="5"
cols="60" name="thisTutorial_referencesField"></textarea><br><br></td>
                                  </tr>
                                  <tr><td>
                                    <input type="submit"
name="submitAddTutorialForm" value="Add Tutorial">
                                          <input type="reset"
name="resetForm" value="Clear Form">
                                          <input type="button" name="cancel"
value="Go Back" onClick="javascript:history.back();">
                                  </td></tr>
                          </table>

                          <script>
                                  var frmvalidator  = new
Validator("addTutorialForm");

           frmvalidator.addValidation("thisTutorial_nameField","req","Pl
ease enter the Tutorial Name");

           frmvalidator.addValidation("thisTutorial_lesson_nameField","r
eq","Please enter the Tutorial Lesson");

           frmvalidator.addValidation("thisTutorial_lesson_discussionFiel
d","req","Please enter the Tutorial Discussion");
                          </script>
           </body>
           </form>
<?php include "footer.php";
```

```php
           print "</div>";
           }
           else{
                          header('Location:index.php');
           }
?>
</html>
```

assessment.php

```php
<?php
/**
 * Assessment Page
 * Source Code for the main page of Assessment module.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php      session_start();
           print "<div id='bg'>";
           include "header.php";
?>
<HTML>
           <HEAD>
           <TITLE>Assessment</TITLE>
           </HEAD>
           <BODY>
                          <table align="center" width="770px"
bgcolor="white" height="220px">
                                  <tr height="5">
                                  <?php if($_SESSION['status'] !=
'logged-in') { ?>
                                          <td align ="center"
width="100px"><a href="assessment_exam.php"><img
src="img/assessment_icon.png" height="80" alt=" assessment icon"
border="0"/><br>Take an Exam</td>
                                  </tr>
                                  <?php } ?>
                                  <?php if($_SESSION['status'] ==
'logged-in') { ?>
                                  <tr>
                                          <td align ="center"
width="100px"><a href="manage_assessment.php"><img
src="img/assessment_icon.png" height="80" alt=" assessment icon"
border="0"/><br>Manage Assessment</td>
                                  </tr>
                                  <?php } ?>
                          </table>
           </BODY>
</HTML>

<?php
           include "footer.php";
           print "</div>";
?>
```

assessment_check.php

```php
<?php
/**
 * Assessment Check
 * Source Code for the evaluation of the assessment exam from the tutorial
module.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
```

`

```php
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php
        require "dbconnect.php";
        $items=0;
        $score=0;
        $question_array = strtok($_POST['idquestions'], ",");

        while(is_string($question_array)){
                if ($question_array) {
                        $query=mysql_query("select * from
assessment where assessment_id='$question_array'");

        while($result=mysql_fetch_array($query)) {

        if($result['answer_key'] == $_POST[$question_array]) {

        $items++;

        $score++;
                                                        } else

        $items++;
                                }
                                $question_array = strtok(",");
                        }
                }
        $ave = (int) (($score/$items)*100);
?>
<?php   session_start();
        print "<div id='bg'>";
        include "header.php";
 ?>
<HTML>
        <HEAD>
        <TITLE>Assessment</TITLE>
        </HEAD>
        <BODY>
                <table align="center" width="770px"
bgcolor="white" height="220px">
                        <tr>
                                <td align="center">
                                <?php
                                if ($ave==100){
                                echo "Congratulations!
You got a perfect score! Excellent!";
                                }
                                else if (($ave >= 70) &&
($ave <= 90)){
                                        echo "Your Score is: " .
$ave . "% . " . "You got " . $score . " out of " . $items . "!" . "Good Job!";
                                }
                                else{
                                        echo "Your Score is: " .
$ave . "% . " . "You got " . $score . " out of " . $items . "!" . " Study more!";
                                }
                                ?>
                                </td>
                        </tr>
                        <tr height="5">
                                <td align ="center"
width="100px"><a href="assessment_exam.php"><img
src="img/assessment_icon.png" height="80" alt=" assessment icon"
border="0"/><br>Take an Exam</td>
                        </tr>
                        <?php if($_SESSION['status'] ==
'logged-in') { ?>
                        <tr>
                                <td align ="center"
width="100px"><a href="manage_assessment.php"><img
src="img/assessment_icon.png" height="80" alt=" assessment icon"
border="0"/><br>Manage Assessment</td>
                        </tr>
                        <?php } ?>
                </table>
        </BODY>
```

```php
</HTML>

<?php
        include "footer.php";
        print "</div>";
?>
```

assessment_deleted.php

```php
<?php
/**
 * Assessment Deleted
 * Source Code for the deletion of any assessment details.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php   session_start();
        if($_SESSION['status'] == 'logged-in') {
        print "<div id='bg'>";
        include "header.php";
?>
<html>
        <head >
        <title>Assessment Deleted.</title>
        </head>
        <center>
        <body>
        <?php
        include_once("dbconnect.php");

                // Retreiving Form Elements from Form
                $assessment_id =
addslashes($_POST['assessment_id']);

        $sql = "DELETE FROM assessment WHERE assessment_id =
'$assessment_id'";
        $result = MYSQL_QUERY($sql);
        ?>
        <table width="770px" bgcolor="white" height="225px">
                <tr><td><br>Record  has been deleted from
database.<br></td></tr>
                <tr><td><li><a href="manage_assessment.php"
target="_top">Back</a></td></tr>
        </table>
        </center>
        </body>
</html>
<?php include "footer.php";
        print "</div>";
        }
else{

                header('Location:index.php');
        }
?>
```

assessment_exam.php

```php
<?php
/**
 * Assessment Exam
 * Source Code for the exam page of assessment module.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
```

```
`
```

```php
<?php    print "<div id='bg'>";
         include "header.php";
?>
<html>
         <head>
         <title>Assessment</title>
         </head>
         <body><center>
<?php
include_once("dbconnect.php");

$sql = "SELECT * FROM assessment";
$result = MYSQL_QUERY($sql);
$numberOfRows = MYSQL_NUM_ROWS($result);

if ($numberOfRows==0) {
?>
         <center>Sorry. No records found !!</center>
<?php
}
else if ($numberOfRows>0) {
         $i=0;
?>
         <?php
                 $ctr = 0;
                 $delim = "#";
                 $j=0;
                 //$max= 10;
                 while ($ctr<$numberOfRows){
                 $assessment_id =
MYSQL_RESULT($result,$ctr,"assessment_id");
                 $questions =
MYSQL_RESULT($result,$ctr,"questions");
                 $choices =
MYSQL_RESULT($result,$ctr,"choices");
                 $questions_array[$ctr] = $questions;
                 $ctr++;
         }
                 print "<form name='assessmentExamForm'
method='POST' action='assessment_check.php'>";
                 print "<table align='center' width='770'
bgcolor='white'>";
                         shuffle($questions_array);
                         $ids = "";
                                 for ($i=0; $i <
count($questions_array); $i++) {
                                         print "<tr><tr><td
bgcolor='99ccff'>";
         echo "Q: " . $questions_array[$i];

         print "</td></tr>";
                                                 $query =
"SELECT * FROM assessment WHERE questions = '$questions_array[$i]'";
                                                 $result =
mysql_query($query) or die (mysql_error());
                                                 $row =
mysql_fetch_array($result);

         $choice_array = strtok($row[choices], $delim);

         while (is_string($choice_array)) {

                 if ($choice_array) {

                                 echo "<tr><td><input type='radio'
name='$row[assessment_id]' value='$choice_array'>" . $choice_array .
"</td></tr>";

                 }

                 $choice_array = strtok($delim);

         }
```

```php
                 $ids = $ids . "," . $row['assessment_id'];
                                         print "</hr></tr>";
                                 }
                 print "</table>";
                 print "<table width='770px'
bgcolor='white'>";
                                 print "<tr><td><input
type='hidden' name='idquestions' value='" . $ids . "' >";
                                 print "<input
type='submit' name='checkAssessment' value='Submit'></td></tr>";
                         print "</table>";
         } //END OF NUMBBER OF ROWS > 0 ?>

         </body>
         </form>
         </center>
</html>
<?php include "footer.php";
         print "</div>";
?>
```

delete_assessment.php

```php
<?php
/**
 * Delete Assessment
 * Source Code for deletion of assessment questions and answers.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php    session_start();
         if($_SESSION['status'] == 'logged-in') {
         print "<div id='bg'>";
         include "header.php";
?>
<html>
         <head>
         <title>Delete Assessment</title>
         </head>
         <body>
         </body>
<?php
require "dbconnect.php";
$assessment_id = $_REQUEST['assessment_id'];
$sql = "SELECT  * FROM assessment WHERE assessment_id =
'".$assessment_id."'";
$result = MYSQL_QUERY($sql);
$numberOfRows = MYSQL_NUMROWS($result);
if ($numberOfRows==0) {
?>
Sorry. No records found !
<?php
}        //end of if
else if ($numberOfRows>0) {
         $assessment_id =
MYSQL_RESULT($result,$i,"assessment_id");
         $questions = MYSQL_RESULT($result,$i,"questions");
         $answer_key = MYSQL_RESULT($result,$i,"answer_key");
         $choices = MYSQL_RESULT($result,$i,"choices");
         $i++;
         } //end of else if
?>
<div id="body">
         <table align="center" cellspacing="2" cellpadding="2"
width="770px">
                                 <tr>
                                         <td>Record  has been
updated in the database. Here is the updated information : </td>
                                 </tr>
```

`

```php
                              <tr align="center" height="20">
                                    <td>ID:<br><?php echo
$assessment_id; ?></td>
                              </tr>
                              <tr align="center" height="20">
                                    <td>Question:<br><?php
echo $questions; ?></td>
                              </tr>
                              <tr align="center" height="20">
                                    <td>Answer
Key:<br><?php echo $answer_key; ?></td>
                              </tr>
                              <tr align="center" height="20">
                  <td>Choices:<br><textarea disabled rows="5" cols="40"
name="choices"><?php echo $choices; ?></textarea></td>
                              </tr>
                              <tr>
                                    <td align="center"><a
href="manage_assessment.php"><li>Assessment List</a></td>
                              </tr>
                        </table>
                        <table align="center" cellspacing="2"
cellpadding="2"  width="770px" >
                        <form name="assessmentConfirmForm"
method="POST" action="assessment_deleted.php">
                        <tr><td><h4>If you are sure you
want to delete the above record, please press the delete button
below.</h4></td></tr>
                        <tr><td><input type="hidden"
name="assessment_id" value="<?php echo $assessment_id; ?>"></td></tr>
                        <tr><td align="center"><input
type="submit" name="submitConfirmDeleteAssessmentForm"
value="Delete  from Assessment"></td></tr>
                        <tr><td align="center"><input
type="button" name="cancel" value="Go Back"
onClick="javascript:history.back();"></td></tr>
                        </form>
                        </table>

            </div>
</html>
<?php include "footer.php";
            print "</div>";
            }
else{
                  header('Location:index.php');
            }
?>
```

delete_healthconcern.php
```php
<?php
/**
 * Delete Health Concern
 * Source Code for deletion of health concern.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php    session_start();
            if($_SESSION['status'] == 'logged-in') {
            print "<div id='bg'>";
            include "header.php";
?>
<html>
            <head>
            <title>Delete Health Concern</title>
            </head>
            <body>
            </body>
<?php
```

```php
require "dbconnect.php";
$health_concern_id = $_GET['id'];
$sql = "SELECT   * FROM health_concern WHERE health_concern_id =
'".$health_concern_id."'";
$result = MYSQL_QUERY($sql);
$numberOfRows = MYSQL_NUMROWS($result);
if ($numberOfRows==0) {
?>
Sorry. No records found !
<?php
}           //end of if
else if ($numberOfRows>0) {
            $health_concern_id =
MYSQL_RESULT($result,$i,"health_concern_id");
            $health_concern_desc =
MYSQL_RESULT($result,$i,"health_concern_desc");
            $i++;
            } //end of else if
?>
<div id="body">
            <table align="center" cellspacing="2" cellpadding="2"
width="770px">
                              <tr align="center" height="20">
                                    <td>Health Concern
ID:<br><?php echo $health_concern_id; ?></td>
                              </tr>
                              <tr height="20">

            <td>Description:<br><?php echo $health_concern_desc;
?></td>
                              </tr>
                              <tr>
                                    <td align="center"><a
href="healthconcern.php"><li>Health Concern List</a></td>
                              </tr>
                        </table>
                        <table align="center" cellspacing="2"
cellpadding="2"  width="770px" >
                        <form name="healthConfirmForm"
method="POST" action="health_concern_deleted.php">
                        <tr><td><h4>If you are sure you
want to delete the above record, please press the delete button
below.</h4></td></tr>
                        <tr><td><input type="hidden"
name="health_concern_id" value="<?php echo $health_concern_id;
?>"></td></tr>
                        <tr><td align="center"><input
type="submit" name="submitConfirmDeleteHealthForm" value="Delete
from Health Concern Records"></td></tr>
                        <tr><td align="center"><input
type="button" name="cancel" value="Go Back"
onClick="javascript:history.back();"></td></tr>
                        </form>
                        </table>

            </div>
</html>
<?php include "footer.php";
            print "</div>";
            }
else{
                  header('Location:index.php');
            }
?>
```

delete_medication.php

```php
<?php
/**
 * Delete Medication
 * Source Code for deletion of medication.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
```

```php
`

 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php      session_start();
           print "<div id='bg'>";
           include "header.php";
?>
<?php      if($_SESSION['status'] == 'logged-in') {
           include_once("dbconnect.php");

$thisMedication_id = $_REQUEST['medication_idField'];

$sql = "SELECT   * FROM medication WHERE medication_id =
'".$thisMedication_id."'";
$result = MYSQL_QUERY($sql);
$numberOfRows = MYSQL_NUMROWS($result);
if ($numberOfRows==0) {
?>

<center>Sorry. No records found !!</center>

<?php
}
else if ($numberOfRows>0) {

           $i=0;
           $thisMedication_id =
MYSQL_RESULT($result,$i,"medication_id");
           $thisMedication_name =
MYSQL_RESULT($result,$i,"medication_name");
           $thisMedication_class =
MYSQL_RESULT($result,$i,"medication_class");
           $thisMedication_type =
MYSQL_RESULT($result,$i,"medication_type");
           $thisMedication_manufacturer =
MYSQL_RESULT($result,$i,"medication_manufacturer");
           $thisDrug_regulated_content =
MYSQL_RESULT($result,$i,"drug_regulated_content");
           $thisMedication_indication =
MYSQL_RESULT($result,$i,"medication_indication");
           $thisMedication_dosage =
MYSQL_RESULT($result,$i,"medication_dosage");
           $thisMedication_oral_admin =
MYSQL_RESULT($result,$i,"medication_oral_admin");
           $thisMedication_ppp_advice =
MYSQL_RESULT($result,$i,"medication_ppp_advice");
           $thisMedication_contraindication =
MYSQL_RESULT($result,$i,"medication_contraindication");
           $thisMedication_special_precaution =
MYSQL_RESULT($result,$i,"medication_special_precaution");
           $thisMedication_adverse_reaction =
MYSQL_RESULT($result,$i,"medication_adverse_reaction");
           $thisMedication_drug_indication =
MYSQL_RESULT($result,$i,"medication_drug_indication");
           $thisMedication_presentation_price =
MYSQL_RESULT($result,$i,"medication_presentation_price");
           $thisMedication_us_preg_cat =
MYSQL_RESULT($result,$i,"medication_us_preg_cat");
}
?>
<html>
           <head>
           <title>Delete Medication</title>
           </head>
           <body><center>
           </body>
           <div id="body">
           <table align="center">
           <tr height="30">
                      <td><b>Medication ID : </b><?php echo
$thisMedication_id; ?></td>
           </tr>
           <tr height="30">
                      <td><b>Medication Name : </b><?php echo
$thisMedication_name; ?></td>
           </tr>
           <tr height="30">
                      <td><b>Medication Classification : </b><?php
echo $thisMedication_class; ?></td>
           </tr>
           <tr height="30">
                      <td><b>Type : </b><?php echo
$thisMedication_type; ?></td>
           </tr>
           <tr height="30">
                      <td><b>Manufacturer : </b><?php echo
$thisMedication_manufacturer; ?></td>
           </tr>
           <tr height="30">
                      <td><b>Drug Regulated Content : </b><?php
echo $thisDrug_regulated_content; ?></td>
           </tr>
           <tr height="30">
                      <td><b>Indication : </b><br>
                      <textarea readonly rows="5" cols="40"><?php
echo $thisMedication_indication; ?></textarea></td>
           </tr>
           <tr height="30">
                      <td><b>Dosage : </b><br>
                      <textarea readonly rows="5" cols="40"><?php
echo $thisMedication_dosage; ?></textarea></td>
           </tr>
           <tr height="30">
                      <td><b>Oral Administration : </b><br>
                      <textarea readonly rows="5" cols="40"><?php
echo $thisMedication_oral_admin; ?></textarea></td>
           </tr>
           <tr height="30">
                      <td><b>PPP Advice : </b><?php echo
$thisMedication_ppp_advice; ?></td>
           </tr>
           <tr height="30">
                      <td><b>Contraindication : </b><br>
                      <textarea readonly rows="5" cols="40"><?php
echo $thisMedication_contraindication; ?></textarea></td>
           </tr>
           <tr height="30">
                      <td><b>Special Precaution : </b><br>
                      <textarea readonly rows="5" cols="40"><?php
echo $thisMedication_special_precaution; ?></textarea></br></td>
           </tr>
           <tr height="30">
                      <td><b>Adverse Reaction : </b><br>
                      <textarea readonly rows="5" cols="40"><?php
echo $thisMedication_adverse_reaction; ?></textarea></td>
           </tr>
           <tr height="30">
                      <td><b>Drug Indication : </b><br>
                      <textarea readonly rows="5" cols="40"><?php
echo $thisMedication_drug_indication; ?></textarea></td>
           </tr>
           <tr height="30">
                      <td><b>Presentation/Price : </b><?php echo
$thisMedication_presentation_price; ?></td>
           </tr>
           <tr height="30">
                      <td><b>US Preg Cat : </b><?php echo
$thisMedication_us_preg_cat; ?></td>
           </tr>
           </table>
           <center>
           <form name="medicationConfirmForm" method="POST"
action="medication_deleted.php">
           <input type="hidden" name="thisMedication_idField"
value="<?php echo $thisMedication_id; ?>">
           <input type="submit"
name="submitConfirmDeletemedicationForm" value="Delete  from
Medications">
           <input type="button" name="cancel" value="Go Back"
onClick="javascript:history.back();">
           </form>
           </center>

                      <table align="center">
                                 <tr><td><div><li><a
href="add_medication.php">Add a New Medication</a></div></td></tr>
                                 <tr><td><div><li><a
href="list_medication.php">List All Medications</a></div></td></tr>
```

```
                                    <tr><td><div><li><a
href="medications.php">Search Medication</a></div></td></tr>
                    </table>
            </div>
</html>
<?php include "footer.php";
            }
else{
                    header('Location:index.php');
            }
?>
```

delete_tutorial.php

```php
<?php
/**
 * Delete Tutorial
 * Source Code for deletion of tutorial.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php       session_start();
            if($_SESSION['status'] == 'logged-in') {
            print "<div id='bg'>";
            include "header.php";
?>
<?php
include_once("dbconnect.php");

$thisTutorial_id = $_REQUEST['tutorial_idField'];

$sql = "SELECT   * FROM tutorial WHERE tutorial_id =
'".$thisTutorial_id."'";
$result = MYSQL_QUERY($sql);
$numberOfRows = MYSQL_NUMROWS($result);
if ($numberOfRows==0) {
?>

<center>Sorry. No records found !</center>

<?php
}
else if ($numberOfRows>0) {
            $i=0;
            $thisTutorial_id = MYSQL_RESULT($result,$i,"tutorial_id");
            $thisTutorial_name =
MYSQL_RESULT($result,$i,"tutorial_name");
            $thisTutorial_lesson_name =
MYSQL_RESULT($result,$i,"tutorial_lesson_name");
            $thisTutorial_lesson_discussion =
MYSQL_RESULT($result,$i,"tutorial_lesson_discussion");
            $thisTutorial_other_info =
MYSQL_RESULT($result,$i,"tutorial_other_info");
            $thisTutorial_references =
MYSQL_RESULT($result,$i,"tutorial_references");
            } // end of else-if
?>
<html>
            <center>
            <head>
            <title>Delete Tutorial</title>
            </head>
            <body>
            </body>
            <table align="center" width="770px" bgcolor="white">
```

```
                    <tr><td><h2>Confirm Record Deletion</h2></td></tr>
            </table>
            <table align="center" width="770px" bgcolor="white">
                    <tr height="30">
                            <td align="right"><b>Tutorial ID :
</b></td>
                            <td><?php echo $thisTutorial_id;
?></td>
                    </tr>
                    <tr height="30">
                            <td align="right"><b>Tutorial Name
: </b></td>
                            <td><?php echo $thisTutorial_name;
?></td>
                    </tr>
                    <tr height="30">
                            <td align="right"><b>Lesson Name :
</b></td>
                            <td><?php echo
$thisTutorial_lesson_name; ?></td>
                    </tr>
                    <tr height="30">
                            <td align="right"><b>Discussion  :
</b></td>
                            <td><textarea disabled rows="5"
cols="80"><?php echo $thisTutorial_lesson_discussion; ?></textarea></td>
                    </tr>
                    <tr height="30">
                            <td align="right"><b>Other Info :
</b></td>
                            <td><textarea disabled rows="5"
cols="80"><?php echo $thisTutorial_other_info; ?></textarea></td>
                    </tr>
                    <tr height="30">
                            <td align="right"><b>References :
</b></td>
                            <td><textarea disabled rows="5"
cols="80"><?php echo $thisTutorial_references; ?></textarea></td>
                    </tr>
            </table>
                    <form name="tutorialConfirmForm"
method="POST" action="tutorial_deleted.php">
                            <table align="center" width="770px"
bgcolor="white">
                                    <tr><td><h3>If you are
sure you want to delete the above record, please press the delete button
below.</h3></td></tr><br><br>
                                    <tr><td><input
type="hidden" name="thisTutorial_idField" value="<?php echo
$thisTutorial_id; ?>"></td></tr>
                                    <tr><td><input
type="submit" name="submitConfirmDeleteTutorialForm" value="Delete
from Tutorial"></td></tr>
                                    <tr><td><input
type="button" name="cancel" value="Go Back"
onClick="javascript:history.back();"></td></tr>
                            </table>
                    </form>
            </center>
</html>
<?php
            include "footer.php";
            print "</div>";
            }
            else{
                    header('Location:index.php');
            }
?>
```

edit_assessment.php

```php
<?php
/**
 * Edit Assessment
 * Source Code for updating assessment.
 *
```

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```
`


 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php    session_start();
         if($_SESSION['status'] == 'logged-in') {
         print "<div id='bg'>";
         include "header.php";
?>
<html>
         <head>
         <title>Edit Tutorial</title>
         <script language="JavaScript" src="gen_validatorv31.js"
type="text/javascript"></script>
         </head>
         <body>
         </body>
         <?php
         include_once("dbconnect.php");
         $assessment_id = $_REQUEST['assessment_id'];
         $sql = "SELECT * FROM assessment WHERE assessment_id
= '$assessment_id'";

         $result = MYSQL_QUERY($sql);
         $numberOfRows = MYSQL_NUMROWS($result);

                 if ($numberOfRows==0) {
                 ?>
                 Sorry. No records found !!
                 <?php
                 }
                 else if ($numberOfRows>0) {
                         $assessment_id =
MYSQL_RESULT($result,$i,"assessment_id");
                                 $questions =
MYSQL_RESULT($result,$i,"questions");
                                 $answer_key =
MYSQL_RESULT($result,$i,"answer_key");
                                 $choices =
MYSQL_RESULT($result,$i,"choices");
                                 $i++;
                 }
                 ?>

         <form name="editAssessmentForm" method="POST"
action="update_assessment.php">
                 <table cellspacing="2" cellpadding="2"
border="0" width="770px" bgcolor="white" align="center">
                         <tr align="center" height="20">
                                 <td><input
type="hidden" name="assessment_id" size="20" value="<?php echo
$assessment_id; ?>"></td>
                         </tr>
                         <tr align="center" height="20">
                                 <td><!--textarea
name="questions" value="<?php //echo $questions; ?></textarea-->
                                         <input  type="text"
name="questions" size="60" value="<?php echo $questions; ?>"></td>
                         </tr>
                         <tr align="center" height="20">
                                 <td><input type="text"
name="answer_key" size="50" value="<?php echo $answer_key; ?>"></td>
                         </tr>
                         <tr align="center" height="20">
                                 <td><textarea rows="5"
cols="40" name="choices"><?php echo $choices; ?></textarea></td>
                         </tr>
                         <tr>
                                         <td
align="center"><input type="submit" name="submitEditAssessmentForm"
value="Update Assessment"></td>
                         </tr>
                         <tr>
```

```
                                         <td
align="center"><input type="reset" name="resetForm" value="Clear
Form"></td>
                         </tr>
                         <tr>
                                         <td
align="center"><input type="button" name="cancel" value="Go Back"
onClick="javascript:history.back();"></td>
                         </tr>
                 </table>
         </form>
         <script>
                         var frmvalidator  = new
Validator("editAssessmentForm");

         frmvalidator.addValidation("questions","req","Please enter the
Question");

         frmvalidator.addValidation("answer_key","req","Please enter
the Answer");

         frmvalidator.addValidation("choices","req","Please enter the
Choices");
         </script>
         </body>
</html>
<?php include "footer.php";
         print "</div>";
         }
else{
                         header('Location:index.php');
         }
?>




edit_healthconcern.php


<?php
/**
 * Edit Health Concern
 * Source Code for updating health concern.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php    session_start();
         if($_SESSION['status'] == 'logged-in') {
         print "<div id='bg'>";
         include "header.php";
?>
<html>
         <head>
         <title>Edit Health Concern</title>
         <script language="JavaScript" src="gen_validatorv31.js"
type="text/javascript"></script>
         </head>
         <body>
         </body>
         <?php
         include_once("dbconnect.php");
         $health_concern_id = $_GET['id'];
         $sql = "SELECT * FROM health_concern WHERE
health_concern_id = '$health_concern_id'";

         $result = MYSQL_QUERY($sql);
         $numberOfRows = MYSQL_NUMROWS($result);

                 if ($numberOfRows==0) {
                 ?>
```

`

Left column:

```
                    Sorry. No records found !!
                    <?php
                    }
                    else if ($numberOfRows>0) {
                        $health_concern_id =
MYSQL_RESULT($result,$i,"health_concern_id");
                        $health_concern_name =
MYSQL_RESULT($result,$i,"health_concern_name");
                        $health_concern_desc =
MYSQL_RESULT($result,$i,"health_concern_desc");
                        $i++;
                    }
                    ?>

            <form name="editHealthForm" method="POST"
action="update_health_concern.php">
                    <table cellspacing="2" cellpadding="2"
border="0" width="770px" bgcolor="white" align="center">
                        <tr align="center" height="20">
                                <td><input
type="hidden" name="health_concern_id" size="20" value="<?php echo
$health_concern_id; ?>"></td>
                        </tr>
                        <tr align="center" height="20">
                                <td><!--textarea
name="questions" value="<?php //echo $questions; ?></textarea-->
                                <input  type="text"
name="hcname" value="<?php echo $health_concern_name; ?>"></td>
                        </tr>
                        <tr align="center" height="20">
                                <td><textarea rows="8"
name="hcdesc"><?php echo $health_concern_desc; ?></textarea></td>
                        </tr>
                        <tr>
                                <td
align="center"><input type="submit" name="submitEditHealthForm"
value="Update Health Concern"></td>
                        </tr>
                        <tr>
                                <td
align="center"><input type="reset" name="resetForm" value="Clear
Form"></td>
                        </tr>
                        <tr>
                                <td
align="center"><input type="button" name="cancel" value="Go Back"
onClick="javascript:history.back();"></td>
                        </tr>
                    </table>
            </form>
            <script>
                    var frmvalidator  = new
Validator("editHealthForm");

            frmvalidator.addValidation("hcname","req","Please enter the
name");
                    frmvalidator.addValidation("hcdesc","req","Please
enter the description");
            </script>
            </body>
</html>
<?php include "footer.php";
        print "</div>";
        }
else{
                    header('Location:index.php');
        }
?>
```

edit_medication.php

```
<?php
/**
 * Edit Medication
 * Source Code for updating medication.
 *
```

Right column:

```
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php      session_start();
           print "<div id='bg'>";
           include "header.php";
?>
<?php if($_SESSION['status'] == 'logged-in') {

include_once("dbconnect.php");

$thisMedication_id = $_REQUEST['medication_idField'];

$sql = "SELECT * FROM medication WHERE medication_id =
'$thisMedication_id'";

$result = MYSQL_QUERY($sql);
$numberOfRows = MYSQL_NUMROWS($result);
if ($numberOfRows==0) {
?>

<center>Sorry. No records found !!</center>

<?php
}
else if ($numberOfRows>0) {

            $i=0;
            $thisMedication_id =
MYSQL_RESULT($result,$i,"medication_id");
            $thisMedication_name =
MYSQL_RESULT($result,$i,"medication_name");
            $thisMedication_class =
MYSQL_RESULT($result,$i,"medication_class");
            $thisMedication_type =
MYSQL_RESULT($result,$i,"medication_type");
            $thisMedication_manufacturer =
MYSQL_RESULT($result,$i,"medication_manufacturer");
            $thisDrug_regulated_content =
MYSQL_RESULT($result,$i,"drug_regulated_content");
            $thisMedication_indication =
MYSQL_RESULT($result,$i,"medication_indication");
            $thisMedication_dosage =
MYSQL_RESULT($result,$i,"medication_dosage");
            $thisMedication_oral_admin =
MYSQL_RESULT($result,$i,"medication_oral_admin");
            $thisMedication_ppp_advice =
MYSQL_RESULT($result,$i,"medication_ppp_advice");
            $thisMedication_contraindication =
MYSQL_RESULT($result,$i,"medication_contraindication");
            $thisMedication_special_precaution =
MYSQL_RESULT($result,$i,"medication_special_precaution");
            $thisMedication_adverse_reaction =
MYSQL_RESULT($result,$i,"medication_adverse_reaction");
            $thisMedication_drug_indication =
MYSQL_RESULT($result,$i,"medication_drug_indication");
            $thisMedication_presentation_price =
MYSQL_RESULT($result,$i,"medication_presentation_price");
            $thisMedication_us_preg_cat =
MYSQL_RESULT($result,$i,"medication_us_preg_cat");

}
?>
<html>
        <center>
        <head>
        <title>Edit Medication</title>
        <script language="JavaScript" src="gen_validatorv31.js"
type="text/javascript"></script>
        </head>
        <center>
        <body>
```

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`

```
                        <form name="editMedicationForm" method="POST"
action="update_medication.php">
                                <table bgcolor="white" cellspacing="2"
cellpadding="2" border="0" width="770px">
                                        <tr valign="top" height="20">
                                                <td> <input
type="hidden" name="thisMedication_idField" size="20" value="<?php
echo $thisMedication_id; ?>"> </td>
                                        </tr>
                                        <tr valign="top" height="40">
                                                <td align="right"> <b>
Medication Name :  </b> </td>
                                                <td> <input type="text"
name="thisMedication_nameField" size="40" value="<?php echo
$thisMedication_name; ?>">  </td>
                                        </tr>
                                        <tr valign="top" height="40">
                                                <td align="right"> <b>
Medication Classification :  </b> </td>
                                                <td> <input type="text"
name="thisMedication_classField" size="20" value="<?php echo
$thisMedication_class; ?>">  </td>
                                        </tr>
                                        <tr valign="top" height="40">
                                                <td align="right"> <b>
Type :  </b> </td>
                                                <td> <input type="text"
name="thisMedication_typeField" size="40" value="<?php echo
$thisMedication_type; ?>">  </td>
                                        </tr>
                                        <tr valign="top" height="40">
                                                <td align="right"> <b>
Manufacturer :  </b> </td>
                                                <td> <input type="text"
name="thisMedication_manufacturerField" size="40" value="<?php echo
$thisMedication_manufacturer; ?>">  </td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
Drug Regulated Content :  </b> </td>
                                                <td> <input type="text"
name="thisDrug_regulated_contentField" size="40" value="<?php echo
$thisDrug_regulated_content; ?>">  </td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
Indication :  </b> </td><br>
                                                <td><textarea
name="thisMedication_indicationField" rows="5" cols="40"><?php echo
$thisMedication_indication; ?></textarea></td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
Dosage :  </b> </td>
                                                <td><textarea
name="thisMedication_dosageField" rows="5" cols="40"><?php echo
$thisMedication_dosage; ?></textarea></td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
Oral Administration :  </b> </td>
                                                <td><textarea
name="thisMedication_oral_adminField" rows="5" cols="40"><?php echo
$thisMedication_oral_admin; ?></textarea></td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
PPP Advice :  </b> </td>
                                                <td> <input type="text"
name="thisMedication_ppp_adviceField" size="40" value="<?php echo
$thisMedication_ppp_advice; ?>">  </td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
Contraindication :  </b> </td>

                                                <td><textarea name="thisMedication_contraindicationField"
rows="5" cols="40"><?php echo $thisMedication_contraindication;
?></textarea></td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
Special Precaution :  </b> </td>
                                                <td><textarea
name="thisMedication_special_precautionField" rows="5"
cols="40"><?php echo $thisMedication_special_precaution;
?></textarea></td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
Adverse Reaction :  </b> </td>
                                                <td><textarea
name="thisMedication_adverse_reactionField" rows="5" cols="40"><?php
echo $thisMedication_adverse_reaction; ?></textarea></td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
Drug Interaction :  </b> </td>
                                                <td><textarea
name="thisMedication_drug_indicationField" rows="5" cols="40"><?php
echo $thisMedication_drug_indication; ?></textarea></td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
Presentation/Price :  </b> </td>
                                                <td> <input type="text"
name="thisMedication_presentation_priceField" size="40" value="<?php
echo $thisMedication_presentation_price; ?>">  </td>
                                        </tr>
                                        <tr valign="top" height="20">
                                                <td align="right"> <b>
US Preg Cat :  </b> </td>
                                                <td> <input type="text"
name="thisMedication_us_preg_catField" size="40" value="<?php echo
$thisMedication_us_preg_cat; ?>">  </td>
                                        </tr>
                                <table bgcolor="white" width="770px"
align="center">
                                        <tr><td align="center"><input type="submit"
name="submitEditMedicationForm" value="Update Medication">
                                                <input type="reset"
name="resetForm" value="Clear Form"></td></tr>
                                </form>
                                </center>
                                        <?php
if($_SESSION['status'] == 'logged-in') { ?>
                                        <tr><td
align="center"><div><li><a href="add_medication.php">Add a New
Medication</a></div></td></tr>
                                        <?php } ?>
                                        <tr><td
align="center"><div><li><a href="list_medication.php">List All
Medications</a></div></td></tr>
                                        <tr><td
align="center"><div><li><a href="medications.php">Power Search
Medication</a></div></td></tr>
                                </table>
                <script>
                var frmvalidator  = new Validator("editMedicationForm");
                frmvalidator.addValidation("thisMedication_nameField","req",
"Please enter the Medication Name");
                frmvalidator.addValidation("thisMedication_classField","req","
Please enter the Medication Class");
                frmvalidator.addValidation("thisMedication_typeField","req","
Please enter the Medication Type");
                frmvalidator.addValidation("thisMedication_manufacturerField
","req","Please enter the Medication Manufacturer");
                frmvalidator.addValidation("thisDrug_regulated_contentField",
"req","Please enter the Drug Regulated Content ");
                frmvalidator.addValidation("thisMedication_indication","req","
Please enter the Medication Indication");
                frmvalidator.addValidation("thisMedication_dosageField","req
","Please enter the Medication Dosage");
                frmvalidator.addValidation("thisMedication_oral_adminField",
"req","Please enter the Medication Oral Administration");
                frmvalidator.addValidation("thisMedication_ppp_adviceField",
"req","Please enter the Medication PPP Advice");
                frmvalidator.addValidation("thisMedication_contraindicationFi
eld","req","Please enter the Medication Contraindication");
```

```
			frmvalidator.addValidation("thisMedication_special_precaution
_Field","req","Please enter the Special Precaution");
			frmvalidator.addValidation("thisMedication_adverse_reactionF
ield","req","Please enter the Adverse Reaction");
			frmvalidator.addValidation("thisMedication_drug_indicationFi
eld","req","Please enter the Drug Indication");
			frmvalidator.addValidation("thisMedication_presentation_price
Field","req","Please enter the Presentation/Price");
			frmvalidator.addValidation("thisMedication_us_preg_catField",
"req","Please enter the US Pregnancy Catalogue");
		</script>
		</body>
</html>
<?php  include "footer.php";
		print "</div>";
		}
		else{
				header('Location:index.php');
		}
 ?>
```

edit_tutorial.php

```php
<?php
/**
 * Edit Tutorial
 * Source Code for updating tutorial.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php	session_start();
		if($_SESSION['status'] == 'logged-in') {
		print "<div id='bg'>";
		include "header.php";
?>
<?php
		include_once("dbconnect.php");

$thisTutorial_id = $_REQUEST['tutorial_idField'];
$sql = "SELECT * FROM tutorial WHERE tutorial_id = '$thisTutorial_id'";

$result = MYSQL_QUERY($sql);
$numberOfRows = MYSQL_NUMROWS($result);
		if ($numberOfRows==0) {
?>
Sorry. No records found !!
<?php
		} //end of if
		else if ($numberOfRows>0) {
				$i=0;
				$thisTutorial_id =
MYSQL_RESULT($result,$i,"tutorial_id");
				$thisTutorial_name =
MYSQL_RESULT($result,$i,"tutorial_name");
				$thisTutorial_lesson_name =
MYSQL_RESULT($result,$i,"tutorial_lesson_name");
				$thisTutorial_lesson_discussion =
MYSQL_RESULT($result,$i,"tutorial_lesson_discussion");
				$thisTutorial_other_info =
MYSQL_RESULT($result,$i,"tutorial_other_info");
				$thisTutorial_references =
MYSQL_RESULT($result,$i,"tutorial_references");
		} // end of else-if
?>
<html>
		<head>
				<title>Edit Tutorial</title>
				<script language="JavaScript" src="gen_validatorv31.js"
type="text/javascript"></script>
		</head>
		<body>
		</body>
		<form name="editTutorialForm" method="POST"
action="update_tutorial.php">
		<table cellspacing="2" cellpadding="2" border="0"
width="770px" bgcolor="white" align="center">
				<tr valign="top" height="20">
						<td><input  type="hidden"
name="thisTutorial_idField" size="20" value="<?php echo $thisTutorial_id;
?>"></td>
				</tr>
				<tr valign="top" height="20">
						<td align="right"> <b> Tutorial Name
: </b> </td>
						<td><input type="text"
name="thisTutorial_nameField" size="106" value="<?php echo
$thisTutorial_name; ?>"></input><br><br></td>
				</tr>
				<tr valign="top" height="20">
						<td align="right"> <b> Lesson Name
: </b> </td>
						<td><input type="text"
name="thisTutorial_lesson_nameField" size="106" value="<?php echo
$thisTutorial_lesson_name; ?>"><br><br></input></td>
				</tr>
				<tr valign="top">
						<td align="right"> <b> Discussion :
</b> </td>
						<td><textarea rows="20" cols="80"
name="thisTutorial_lesson_discussionField"><?php echo
$thisTutorial_lesson_discussion; ?></textarea><br><br></td>
				</tr>
				<tr valign="top">
						<td align="right"> <b> Other
Information :  </b> </td>
						<td><textarea rows="5" cols="80"
name="thisTutorial_other_infoField"><?php echo $thisTutorial_other_info;
?></textarea><br><br></td>
				</tr>
				<tr valign="top">
						<td align="right"> <b> References :
</b> </td>
						<td><textarea rows="5" cols="80"
name="thisTutorial_referencesField"><?php echo $thisTutorial_references;
?></textarea><br><br></td>
				</tr>
		</table>
		<table bgcolor="white" align="center" width="770px">
				<tr><td>
				 <input type="submit"
name="submitEditTutorialForm" value="Update Tutorial">
						<input type="reset" name="resetForm"
value="Clear Form">
						<input type="button" name="cancel" value="Go
Back" onClick="javascript:history.back();">
				</td></tr>
		</table>
		</form>
		<script>
				var frmvalidator  = new
Validator("editTutorialForm");

		frmvalidator.addValidation("thisTutorial_nameField","req","Pl
ease enter the Tutorial Name");

		frmvalidator.addValidation("thisTutorial_lesson_nameField","r
eq","Please enter the Tutorial Name");

		frmvalidator.addValidation("thisTutorial_lesson_discussionFiel
d","req","Please enter the Tutorial Name");
		</script>
</html>
<?php
		include "footer.php";
		print "</div>";
		}
		else{
```

`

```php
                header('Location:index.php');
            }
?>
```

exam.php

```php
<?php
/**
 * Exam Page
 * Source Code for the exam module.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php
        // Make a MySQL Connection
        require "dbconnect.php";

$sql = "SELECT * FROM assessment";

$result = MYSQL_QUERY($sql);
$numberOfRows = MYSQL_NUM_ROWS($result);

if ($numberOfRows==0) {
echo "Sorry. No records found !!";
}
else if ($numberOfRows>0) {
        $i=0;
}
while ($i<$numberOfRows)
        {
        $assessment_id =
MYSQL_RESULT($result,$i,"assessment_id");
        $questions = MYSQL_RESULT($result,$i,"questions");
        $arr[$i] = $questions;
        $i++;
        }
        shuffle($arr);
                for ($i=0; $i < count($arr); $i++) {
                        echo $arr[$i];
                        }

?>

<html>
        <head>
        <title>Add a Tutorial</title>
        </head>
        <body><center>
                <a target="_top" href="index.php">Home</a> |
                <a target="_top" href="healthconcern.php">Health
Concern</a> |
                <a target="_top"
href="medications.php">Medications</a> |
                <a target="_top" href="tutorial.php">Tutorial</a>
|
                <a target="_top"
href="assessment.php">Assessment</a>
        </center></body>
</html>
```

health_concern_deleted.php

```php
<?php
/**
 * Health Concern Deleted
 * Source Code for confirmation of health concern deletion.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php    session_start();
        if($_SESSION['status'] == 'logged-in') {
        print "<div id='bg'>";
        include "header.php";
?>
<html>
        <head >
        <title>Health Concern Deleted.</title>
        </head>
        <center>
        <body>
        <?php
        include_once("dbconnect.php");

                // Retreiving Form Elements from Form
                $health_concern_id =
addslashes($_POST['health_concern_id']);

        $sql = "DELETE FROM health_concern WHERE
health_concern_id = '$health_concern_id'";
        $result = MYSQL_QUERY($sql);
        ?>
        <table width="770px" bgcolor="white" height="225px">
                <tr><td><br>Record has been deleted from
database.<br></td></tr>
                <tr><td><li><a href="healthconcern.php"
target="_top">Back</a></td></tr>
        </table>
        </center>
        </body>
</html>
<?php include "footer.php";
        print "</div>";
        }
else{
                header('Location:index.php');
        }
?>
```

healthconcern.php

```php
<?php
/**
 * Health Concern Page
 * Source Code for the health concern module.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php    session_start();
error_reporting(E_ERROR | E_WARNING | E_PARSE);
        print "<div id='bg'>";
```

`

```php
?>
<HTML>
        <center>
        <HEAD>
        <TITLE>Pharmexsys</TITLE>
        </HEAD>
                <BODY>
                <?php include "header.php"; ?>
                <div id="body">
                        <form name="healthconcernForm"
method="POST" action="healthconcern.php">
                        <?php
                        require "dbconnect.php";

                        $query = 'SELECT
health_concern_name, health_concern_id FROM health_concern';
                        $result = mysql_query($query) or
die('Query failed: ' . mysql_error());
                                print "<br><br><SELECT
NAME='HealthConcern'>";
                                print "<OPTION
id='selected' SELECTED>Select a Health Concern</font></OPTION>";
                                while ($option =
mysql_fetch_array($result, MYSQL_ASSOC)) {


        $i++;

        print"<OPTION VALUE='" . $option["health_concern_id"] .
"'>" . $option["health_concern_name"] . "<br></OPTION>";


                        }
                                print "</SELECT>";
                        ?>
                        <input
name="submitHealthConcernForm" type="submit" value="Go">
                        </form>
                <table width='650' align='center'>
                <?php

                        if($healthconcern_id =
$_POST['HealthConcern']){
                                if($healthconcern_id !=
"Select a Health Concern"){

        $healthconcern_id = $healthconcern_id;
                                }
                                else{
                                        print "<font
color='red'><em>You have not selected a Health Concern!</em></font>";
                                }
                        }
                        else{
                        $healthconcern_id=1;
                        }
                        print "<form
name='checkHealthConcernForm' method='POST'
action='healthconcern_rule.php'>";
                                print "<input type='hidden'
name='healthconcern_id' value='$healthconcern_id'>";
                                $delim = "#";
                                $query=mysql_query("select * from
health_concern where health_concern_id = '$healthconcern_id'");

        while($result=mysql_fetch_array($query)){
                                        print
"<tr><td>$result[health_concern_name]<hr>";
                                        print
"<tr><td>         
   $result[health_concern_desc]<hr>";
                                        print "Symptom/s:";

        $symptom_array = strtok($result[symptom], $delim);

        while(is_string($symptom_array)){

        if ($symptom_array) {

        print "<tr><td><li>$symptom_array</td></tr>";
```

```php
                                                }
                        $symptom_array = strtok($delim);
                                                }
                                        }
                                        ?>
                        </table>
                        <INPUT TYPE='submit' VALUE='Check Rules'>
                </form>
                        <table align="center" width="200"
bgcolor="white">
                                        <?php
if($_SESSION['status'] == 'logged-in') { ?>

                        <tr><td><li><a href="add_healthconcern.php">Add New
Health Concern</a></td></tr>
                                                <?php
                if($healthconcern_id != "Select a Health Concern"){
                                                        ?>
                        <tr><td><li><a
href="edit_healthconcern.php?id=<?=$healthconcern_id?>">Edit Health
Concern</td></a></td></tr>

                        <tr><td><li><a
href="delete_healthconcern.php?id=<?=$healthconcern_id?>">Delete
Health Concern</td></a></td></tr>
                                                        <?php


                }
                                                        ?>
                                        <?php } ?>
                                </table>
                        </div>
                        <?php include "footer.php"; ?>
                </BODY>
                </center>
                </div>
</HTML>
```

healthconcern_left.php

```php
<?php
/**
 * Health Concern Left Frame
 * Source Code for the left frame view of health concern module.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<html>
    <head>
    <title>PharmExSys-List of Health Concern</title>
    <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-
1" />
    </head>
    <body>
        <noscript>JavaScript Menu is only visible when JavaScript is
enabled</noscript>
        <!-- The next file contains your menu data, links and menu structure etc
-->
        <!--script type="text/javascript" src="menu_data.js"></script--!>
        <!-- **** JavaScript Menu HTML Code -->
                        <?php
                                require "dbconnect.php";
                                $sql = "SELECT * FROM
health_concern";
```

```
`
                                                //echo $sql."<br>";
                                                $result = MYSQL_QUERY($sql);
                                                $numberOfRows =
MYSQL_NUM_ROWS($result);

                                                while ($i<$numberOfRows){
                                                        //$thisHealth_concern_id
= MYSQL_RESULT($result,1,"health_concern_id");
                                ?>

        <map name="menumap">
                <area href="healthconcern.php?health_concern_idField=<?php echo
$thisHealth_concern_id =
MYSQL_RESULT($result,0,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="151, 125, 193, 166">
                <area href="healthconcern.php?health_concern_idField=<?php echo
$thisHealth_concern_id =
MYSQL_RESULT($result,1,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="123, 87, 143, 117">
                <area href="healthconcern.php?health_concern_idField=<?php echo
$thisHealth_concern_id =
MYSQL_RESULT($result,2,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="28, 148, 77, 285">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,3,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="125, 39, 141, 62">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,4,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="141, 284, 190, 324">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,5,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="119, 69, 150, 80">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,6,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="115, 233, 152, 252">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,7,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="121, 259, 146, 279">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,8,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="112, 12, 156, 29">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,9,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="93, 222, 109, 239">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,10,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="104, 290, 124, 317">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,11,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="126, 194, 139, 223">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,12,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="97, 138, 138, 160">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,13,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="147, 195, 170, 228">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,14,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="23, 308, 61, 370">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,15,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="204, 306, 246, 372">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,16,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="197, 227, 235, 290">
                <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
```

```
MYSQL_RESULT($result,17,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="78, 86, 113, 111">
        <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,17,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="152, 87, 185, 113">
        <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,18,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="144, 465, 190, 564">
        <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,19,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="110, 333, 156, 380">
        <area href="healthconcern_right.php?health_concern_idField=<?php
echo $thisHealth_concern_id =
MYSQL_RESULT($result,20,"health_concern_id"); ?>" target="right_side"
shape="rect" coords="72, 380, 126, 565">
<?php
                        $i=21;
}
?>
        </map>
        <!--CHECKING POSITIONS!
        <a href="#"><img src="/pharmexsys/img/3d-human-anatomy
copy.jpg" width="271"
        height="640" style="border: none;" alt="Shapes"
ismap="ismap"/></a>-->
        <img src="/pharmexsys/img/human.png" border="0"
usemap="#menumap">
    </body>
</html>
<?php
?>
```

healthconcern_rule.php

```
<?php
/**
 * Health Concern Rule
 * Source Code for the health concern rules module.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php        session_start(); ?>
<html>
        <head><title>Pharmexsys</title>
        <script src="toggle.js" type="text/javascript"></script>
<SCRIPT language="JavaScript">
        <!--
        //var panelID = "p1"
        var numDiv = 3
        var numRows = 1
        var tabsPerRow = 3
        var numLocations = numRows * tabsPerRow
        var tabWidth = 90
        var tabHeight = 30
        var vOffset = 3
        var hOffset = 4

        var divLocation = new Array(numLocations)
        var newLocation = new Array(numLocations)

        for(var i=0; i<numLocations; ++i) {
                divLocation[i] = i
                newLocation[i] = i
        }
```

`

```
function getDiv(s,i) {
        var div
        if (document.layers) {
                div =
document.layers[panelID].layers[panelID+s+i]
        } else if (document.all &&
!document.getElementById) {
                div = document.all[panelID+s+i]
        } else {
                div =
document.getElementById(panelID+s+i)
        }
        return div
}

function setZIndex(div, zIndex) {
        if (document.layers) div.style = div;
        div.style.zIndex = zIndex
}

function updatePosition(div, newPos) {

newClip=tabHeight*(Math.floor(newPos/tabsPerRow)+1)
        if (document.layers) {
                div.style=div;
                div.clip.bottom=newClip; // clip off
bottom
        } else {
                div.style.clip="rect(0 auto
"+newClip+" 0)"
        }
        div.style.top = (numRows-
(Math.floor(newPos/tabsPerRow) + 1)) * (tabHeight-vOffset)
        div.style.left = (newPos % tabsPerRow) *
tabWidth +  (hOffset * (Math.floor(newPos / tabsPerRow)))
}

function selectTab(n, panel) {
        panedID = "p" + panel;
        alert(n + " " + panel);
        // n is the ID of the division that was clicked
        // firstTab is the location of the first tab in the
selected row
        var firstTab = Math.floor(divLocation[n] /
tabsPerRow) * tabsPerRow
        // newLoc is its new location
        for(var i=panel; i<panel+numDiv; ++i) {
                // loc is the current location of the tab
                var loc = divLocation[i]
                // If in the selected row
                if(loc >= firstTab && loc < (firstTab
+ tabsPerRow)) newLocation[i] = (loc - firstTab)
                else if(loc < tabsPerRow)
newLocation[i] = firstTab+(loc % tabsPerRow)
                else newLocation[i] = loc
        }
        // Set tab positions & zIndex
        // Update location
        for(var i=panel; i<panel+numDiv; ++i) {
                var loc = newLocation[i]
                var div = getDiv("panel",i)
                if(i == n) setZIndex(div,
numLocations +1)
                else setZIndex(div, numLocations -
loc)
                divLocation[i] = loc
                div = getDiv("tab",i)
                updatePosition(div, loc)
                if(i == n) setZIndex(div,
numLocations +1)
                else setZIndex(div,numLocations -
loc)
        }
}

// Nav4: position component into a table
function positionPanel() {
        document.p1.top=document.panelLocator.pageY;
        document.p1.left=document.panelLocator.pageX;
```

```
}
if (document.layers) window.onload=positionPanel;

//-->
</SCRIPT>

</head>
        <form>
                <center>
                <?php
                        print "<div id='bg'>";
                        include "header.php";
                        print "<div id ='body_rule'>";
                        require "dbconnect.php";
                        $health_concern_id =
$_POST['healthconcern_id'];
                        $counter=0;
                        //$link = mysql_connect("localhost",
"root", "") or die("Could not connect: " . mysql_error());
                        //mysql_selectdb("pharmexsys",$link)
or die ("Can\'t use dbmapserver : " . mysql_error());
                        //$health_concern_id=9; //kunwari
ung pinili ng user
                        $query=mysql_query("select * from
rule where health_concern_id=$health_concern_id  ORDER BY rule_id");

        while($result=mysql_fetch_array($query)){
                                if($counter==0) {
                                        echo "<span
id='".$result['rule_id']."' style='display: block;'>";
                                } else {
                                        echo "<span
id='".$result['rule_id']."' style='display: none;'>";
                                }
                                echo "<span
id='".$result['rule_id']."'>" . "<textarea id='rule' readonly cols='100'
rows='5'>".$result['rule_detail']."</textarea></span></br>";

                        if(($result['rule_id_yes']!=NULL) &&
($result['rule_id_no']!=NULL)){
                                        echo
"<input onclick='toggle(\"".$result['rule_id']."\",
\"".$result['rule_id_yes']."\")' type='radio' name='response'
value='Yes'>Yes  ";
                                        echo
"<input onclick='toggle(\"".$result['rule_id']."\", \"".$result['rule_id_no']."\")'
type='radio' name='response' value='No'>No";
                                }
                                if
(($result['advice_id']!=NULL) && (($result['rule_id_yes']==NULL) &&
($result['rule_id_no']==NULL))) { ?>
                        <br><br>
                        <ILAYER id="panelLocator" width="400"
height="700"></ILAYER>
                        <NOLAYER>
                        <DIV id="p<?php echo $result['rule_id'] ?>"
style="background-color: transparent; position: relative; width: 400px;
height: 400px">
                                <!--TAB 1-->
                                <DIV onclick="selectTab(0, <?php echo
$result['rule_id'] ?> )" id="p1tab0" class="tab" style="background-
color:#6699cc; left:0px; top:22px; z-index:1; clip:rect(0 auto 30 0)">
                                Advice
                                </DIV>
                                <DIV id="p<?php echo $result['rule_id']
?>panel0" class="panel" style="background-color: #ffffee;  z-index:1;
overflow-x:none;  " >
                                <?php
                                        $delim = "#";
                                        print "<table width='380'>";
                                        $health_advice = $result['advice_id'];
                                        $query1=mysql_query("select * from
advice where advice_id='$health_advice'");

                        $result1=mysql_fetch_array($query1);
                                        $advice_array =
strtok($result1[advice_details], $delim);
                                        print "<textarea readonly cols='46'
rows='8'>";
```

`

```php
                    while(is_string($advice_array)){
                            if($advice_array){
                    print "\n\n-$advice_array";
                                    }
                            $advice_array =
strtok($delim);


                    }
                    print "</textarea>";
                    print "</table>";
            ?>
            </DIV>

            <!--TAB 2-->
            <DIV onclick="selectTab(1, <?php echo
$result['rule_id'] ?>)" id="p1tab1" class="tab" style="background-
color:#6699cc; left:90px; top:22px; z-index:2; clip:rect(0 auto 30 0)">
                    Treatment
            </DIV>
            <DIV id="p<?php echo $result['rule_id']
?>panel1" class="panel" style="background-color: #FFFFFF;  z-index:2;
overflow-x:none; ">
                    <?php
                    $treatment_array =
strtok($result1[treatment_option], $delim);
                    print "<table width='380' border='1'
rules='all'><div>";
                    echo "<textarea readonly rows='8' cols='46'>";
                            while(is_string($treatment_array)){
                                    if($treatment_array){
                                            //print
"<tr><td align='left'><br>";
                                            print "\n\n-
$treatment_array";

            //<br></td><tr>";
                                    }
                                    $treatment_array =
strtok($delim);
                            }
                            echo "</textarea>";
                    print "</table>";
                    ?>
            </DIV>
            <!--TAB 3-->
            <DIV onclick="selectTab(2,<?php echo
$result['rule_id'] ?>)" id="p1tab2" class="tab" style="background-
color:#6699cc; left:180px; top:22px; z-index:3; clip:rect(0 auto 30 0)">
                    Medication
            </DIV>
            <DIV id="p<?php echo $result['rule_id']
?>panel2" class="panel" style="background-color: #FFFFFF;  z-index:3
overflow-y:scroll;">
                    <?php
                    $query2=mysql_query("select * from medication
where health_concern_id='$health_advice'");

            while($result2=mysql_fetch_array($query2)){
                                    $name =
$result2[medication_name];
                                    print "<a
href='view_medication.php?medication_nameField=$name'><br>$result2[
medication_name]</a>";
                            }
                    ?>
                    </DIV>
            </DIV>
            </NOLAYER>
                                    <?php
                                    }
                                    echo "</span>";
                                    $counter = $counter +1;
                            }
                            print"<br><br><br><br>";
                    ?>
            </form>
            </div>
            <?php include "footer.php"; ?>
            </div>
            </center>
```

insert_assessment.php

```php
<?php
/**
 * Insert Assessment
 * Source Code for the assessment module add confirmation.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php       session_start();
            if($_SESSION['status'] == 'logged-in') {
            print "<div id='bg'>";
            include "header.php";
?>
<?php
include_once("dbconnect.php");
?>
<?php
            $questions = addslashes($_REQUEST['questions']);
            $answer_key = addslashes($_REQUEST['answer_key']);
            $choices = addslashes($_REQUEST['choices']);
            $sqlQuery = "INSERT INTO assessment (questions ,
answer_key , choices)
                    VALUES ('$questions', '$answer_key' ,
'$choices')";
            $result = MYSQL_QUERY($sqlQuery);
?>
<html>
        <head>
            <title>Assessment Added</title>
            </head>
            <body>
            </body>
                    <table cellspacing="2" cellpadding="2"
border="0" width="770px" align="center" bgcolor="white">
                            <tr>
                                    <td><b>Record  has
been added in the Database. Here is the added information :</b></td>
                            </tr>
                            <tr align="center" height="20">
                                    <td
width="100px"><?php echo $assessment_id; ?></td>
                            </tr>
                            <tr align="center" height="20">
                                    <td
width="100px"><b>Question:</b><br> <?php echo $questions; ?></td>
                            </tr>
                            <tr align="center" height="20">
                                    <td
width="100px"><b>Answer Key:</b><br><?php echo $answer_key;
?></td>
                            </tr>
                            <tr align="center" height="20">
                                    <td
width="100px"><b>Choices:</b><br> <textarea disabled rows="5"
cols="40" name="choices"><?php echo $choices; ?></textarea></td>
                            </tr>
                            <tr>
                                    <td width="100px"><div
align="center"><a href="manage_assessment.php"><li>Assessment
List</a></td>
                            </tr>
                    </table>
</html>
```

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`

```php
<?php include "footer.php";
            print "</div>";
        }
else{
                    header('Location:index.php');
        }
?>
```

insert_healthconcern.php

```php
<?php
/**
 * Insert Health Concern
 * Source Code for the health concern module add confirmation.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php      session_start();
            if($_SESSION['status'] == 'logged-in') {
?>
<?php
include_once("dbconnect.php");
?>
<?php
            function startsWith($haystack, $needle)
            {
              return $needle === "" || strpos($haystack, $needle) === 0;
            }

            function endsWith($haystack, $needle)
            {
              return $needle === "" || substr($haystack, -strlen($needle))
=== $needle;
            }

            $health_concern_name =
addslashes($_REQUEST['health_concern_name']);
            $health_concern_desc =
addslashes($_REQUEST['health_concern_desc']);
            $hcsymptoms = "";

            foreach ($_REQUEST as $key => $value) {
                        if (startsWith($key, "hcsymptoms")) {
                                    if (!empty($value)) {
                                                $hcsymptoms .= "#" .
trim($value);
                                    }
                        }
            }

            if (!empty($health_concern_name) &&
!empty($health_concern_desc)) {
                        $sqlQuery = "INSERT INTO health_concern
(health_concern_name, health_concern_desc, symptom) VALUES
('$health_concern_name', '$health_concern_desc', '$hcsymptoms')";
                        $result = MYSQL_QUERY($sqlQuery);
            }

            $patient_advice = addslashes($_REQUEST['patient_advice']);
            $treatment_option =
addslashes($_REQUEST['treatment_option']);

            if (!empty($patient_advice) && !empty($treatment_option)) {
                        $sqlQuery = "INSERT INTO advice
(advice_details, treatment_option) VALUES ('$patient_advice',
'$treatment_option')";
                        $result = MYSQL_QUERY($sqlQuery);
```

```php
            }

            foreach ($_REQUEST as $key => $value) {
                        if (startsWith($key, "hcrules")) {
                                    if (!empty($value)) {
                                                $sqlQuery = "INSERT
INTO rule (rule_detail) VALUES ('$value')";
                                                $result =
MYSQL_QUERY($sqlQuery);
                                    }
                        }
            }

            header('Location:healthconcern.php');

            }
else{
                    header('Location:index.php');
            }
?>
```

insert_medication.php

```php
<?php
/**
 * Insert Medication
 * Source Code for the medication module add confirmation.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php      session_start();
            print "<div id='bg'>";
            include "header.php";
?>
<?php
            if($_SESSION['status'] == 'logged-in') {
            include_once("dbconnect.php");

            // Retreiving Form Elements from Form
            $thisHealthconcern_id =
addslashes($_REQUEST['thisHealthconcern_idField']);
            $thisMedication_name =
addslashes($_REQUEST['thisMedication_nameField']);
            $thisMedication_class =
addslashes($_REQUEST['thisMedication_classField']);
            $thisMedication_type =
addslashes($_REQUEST['thisMedication_typeField']);
            $thisMedication_manufacturer =
addslashes($_REQUEST['thisMedication_manufacturerField']);
            $thisDrug_regulated_content =
addslashes($_REQUEST['thisDrug_regulated_contentField']);
            $thisMedication_indication =
addslashes($_REQUEST['thisMedication_indicationField']);
            $thisMedication_dosage =
addslashes($_REQUEST['thisMedication_dosageField']);
            $thisMedication_oral_admin =
addslashes($_REQUEST['thisMedication_oral_adminField']);
            $thisMedication_ppp_advice =
addslashes($_REQUEST['thisMedication_ppp_adviceField']);
            $thisMedication_contraindication =
addslashes($_REQUEST['thisMedication_contraindicationField']);
            $thisMedication_special_precaution =
addslashes($_REQUEST['thisMedication_special_precautionField']);
            $thisMedication_adverse_reaction =
addslashes($_REQUEST['thisMedication_adverse_reactionField']);
            $thisMedication_drug_indication =
addslashes($_REQUEST['thisMedication_drug_indicationField']);
            $thisMedication_presentation_price =
addslashes($_REQUEST['thisMedication_presentation_priceField']);
            $thisMedication_us_preg_cat =
addslashes($_REQUEST['thisMedication_us_preg_catField']);
```

`

```php
            if($thisHealthconcern_id < 1){
            $sqlQuery = "INSERT INTO medication ( medication_name ,
medication_class , medication_type , medication_manufacturer ,
drug_regulated_content , medication_indication , medication_dosage ,
medication_oral_admin , medication_ppp_advice ,
medication_contraindication , medication_special_precaution ,
medication_adverse_reaction, medication_drug_indication ,
medication_presentation_price , medication_us_preg_cat )
                        VALUES ( '$thisMedication_name' ,
'$thisMedication_class' , '$thisMedication_type' ,
'$thisMedication_manufacturer' , '$thisDrug_regulated_content' ,
'$thisMedication_indication' , '$thisMedication_dosage' ,
'$thisMedication_oral_admin' , '$thisMedication_ppp_advice' ,
'$thisMedication_contraindication' , '$thisMedication_special_precaution' ,
'$thisMedication_adverse_reaction' , '$thisMedication_drug_indication' ,
'$thisMedication_presentation_price' , '$thisMedication_us_preg_cat' )";
            $result = MYSQL_QUERY($sqlQuery);
            }
            else{
            $sqlQuery = "INSERT INTO medication ( health_concern_id ,
medication_name , medication_class , medication_type ,
medication_manufacturer , drug_regulated_content , medication_indication ,
medication_dosage , medication_oral_admin , medication_ppp_advice ,
medication_contraindication , medication_special_precaution ,
medication_adverse_reaction, medication_drug_indication ,
medication_presentation_price , medication_us_preg_cat )
                        VALUES ('$thisHealthconcern_id' ,
'$thisMedication_name' , '$thisMedication_class' , '$thisMedication_type' ,
'$thisMedication_manufacturer' , '$thisDrug_regulated_content' ,
'$thisMedication_indication' , '$thisMedication_dosage' ,
'$thisMedication_oral_admin' , '$thisMedication_ppp_advice' ,
'$thisMedication_contraindication' , '$thisMedication_special_precaution' ,
'$thisMedication_adverse_reaction' , '$thisMedication_drug_indication' ,
'$thisMedication_presentation_price' , '$thisMedication_us_preg_cat' )";
            $result = MYSQL_QUERY($sqlQuery);
            }
?>
<html>
        <head>
        <title>PharmExSys-Medication Added</title>
        </head>
        <center>
        <body>
        <div id="body">
        A new record has been inserted in the database. Here is the
information that has been inserted :<br><br>
        <table>
        <?php if($thisHealthconcern_id < 1){
        echo "<font color='red'><em>You have not selected a Health
concern.</em></font>";
        }
        else{
        ?>
        <tr height="30">
                        <td><b>Health Concern ID: </b><? echo
$thisHealthconcern_id; ?></td>
        </tr>
        <?php } ?>
        <tr height="30">
                        <td><b>Medication Name : </b><? echo
$thisMedication_name; ?></td>
        </tr>
        <tr height="30">
                        <td><b>Class : </b><? echo
$thisMedication_class; ?></td>
        </tr>
        <tr height="30">
                        <td><b>Type : </b><? echo
$thisMedication_type; ?></td>
        </tr>
        <tr height="30">
                        <td><b>Manufacturer : </b><? echo
$thisMedication_manufacturer; ?></td>
        </tr>
        <tr height="30">
                        <td><b>Drug Regulated Content : </b><? echo
$thisDrug_regulated_content; ?></td>
        </tr>
        <tr height="30">
                        <td><b>Indication : </b><br><textarea readonly
rows="5" cols="40"><? echo $thisMedication_indication;
?></textarea></td>
        </tr>
        <tr height="30">
                        <td><b>Dosage : </b><br><textarea readonly
rows="5" cols="40"><? echo $thisMedication_dosage; ?></textarea></td>
        </tr>
        <tr height="30">
                        <td><b>Oral Administration : </b><br><textarea
readonly rows="5" cols="40"><? echo $thisMedication_oral_admin;
?></textarea></td>
        </tr>
        <tr height="30">
                        <td><b>PPP Advice : </b><? echo
$thisMedication_ppp_advice; ?></td>
        </tr>
        <tr height="30">
                        <td><b>Contraindication : </b><br><textarea
readonly rows="5" cols="40"><? echo $thisMedication_contraindication;
?></textarea></td>
        </tr>
        <tr height="30">
                        <td><b>Special Precaution : </b><br><textarea
readonly rows="5" cols="40"><? echo $thisMedication_special_precaution;
?></textarea></td>
        </tr>
        <tr height="30">
                        <td><b>Adverse Reaction : </b><br><textarea
readonly rows="5" cols="40"><? echo $thisMedication_adverse_reaction;
?></textarea></td>
        </tr>
        <tr height="30">
                        <td><b>Drug Interaction : </b><br><textarea
readonly rows="5" cols="40"><? echo $thisMedication_drug_indication;
?></textarea></td>
        </tr>
        <tr height="30">
                        <td><b>Presentation/Price : </b><? echo
$thisMedication_presentation_price; ?></td>
        </tr>
        <tr height="30">
                        <td><b>US Preg Cat : </b><? echo
$thisMedication_us_preg_cat; ?></td>
        </tr>
        </table>
        <table align="center">
                <tr><td><div><li><a
href="add_medication.php">Add a New Medication</a></div></td></tr>
                <tr><td><div><li><a
href="list_medication.php">List All Medications</a></div></td></tr>
                <tr><td><div><li><a
href="medications.php">Search Medication</a></div></td></tr>
        </table>
        </center>
        </body>
</html>
<?php
        include "footer.php";
        print "</div>";
        } //end of if
else{
                        header('Location:index.php');
        }
?>
```

insert_tutorial.php

```php
<?php
/**
* Insert Tutorial
* Source Code for the tutorial module add confirmation.
*
* @package    PharmExSys
* @author     Renzon Greg D. Manansala - BS Computer Science
* @copyright  2010
* PHP version 5
*
```

```
`
```

```php
<?php    session_start();
         if($_SESSION['status'] == 'logged-in') {
         print "<div id='bg'>";
         include "header.php";
?>
<?php
include_once("dbconnect.php");
?>
<?php
         // Retreiving Form Elements from Form
         $thisTutorial_name =
addslashes($_REQUEST['thisTutorial_nameField']);
         $thisTutorial_lesson_name =
addslashes($_REQUEST['thisTutorial_lesson_nameField']);
         $thisTutorial_lesson_discussion =
addslashes($_REQUEST['thisTutorial_lesson_discussionField']);
         $thisTutorial_other_info =
addslashes($_REQUEST['thisTutorial_other_infoField']);
         $thisTutorial_references =
addslashes($_REQUEST['thisTutorial_referencesField']);

         $sqlQuery = "INSERT INTO tutorial (tutorial_name ,
tutorial_lesson_name , tutorial_lesson_discussion , tutorial_other_info ,
tutorial_references )
                 VALUES ('$thisTutorial_name' ,
'$thisTutorial_lesson_name' , '$thisTutorial_lesson_discussion' ,
'$thisTutorial_other_info' , '$thisTutorial_references')";
         $result = MYSQL_QUERY($sqlQuery);
?>
<html>
         <head>
         <title>Tutorial Added</title>
         </head>
         <body></body>
         <center>
         <table width="770px"bgcolor="white">
         <tr>
                 <td>A new record has been inserted in the
database. Here is the information that has been inserted :</td>
         </tr>
         <tr height="30">
                 <td align="left"><b>Tutorial Name : </b>
                 <?php echo $thisTutorial_name; ?></td>
         </tr>
         <tr height="30">
                 <td align="left"><b>Lesson Name : </b>
                 <?php echo $thisTutorial_lesson_name; ?></td>
         </tr>
         <tr height="30">
                 <td align="left"><b>Discussion : </b>
                 <textarea disabled rows="20" cols="80"><? echo
$thisTutorial_lesson_discussion; ?></textarea></td>
         </tr>
                 <tr height="30">
                 <td align="left"><b>Other Information : </b>
                 <textarea disabled rows="5" cols="80"><? echo
$thisTutorial_other_info; ?></textarea></td>
         </tr>
                 <tr height="30">
                 <td align="left"><b>References : </b>
                 <textarea disabled rows="5" cols="80"><? echo
$thisTutorial_references; ?></textarea></td>
         </tr>
         <tr><td align="left" height="30">
                 <a href="tutorial.php" target="_top">Back</a>
         </td>
         </tr>
         </table>
         <?php include "footer.php"; ?>
         </center>
         </div>
</html>
<?php }
else{
```

```php
                 header('Location:index.php');
         }
?>
```

list_medication.php

```php
<?php
/**
* List Medication
* Source Code for listing of medication.
*
* @package    PharmExSys
* @author     Renzon Greg D. Manansala - BS Computer Science
* @copyright  2010
* PHP version 5
*
* LICENSE: This source file is subject to version 3.01 of the PHP license
* that is available through the world-wide-web at the following URI:
* http://www.php.net/license/3_01.txt.
*/
?>

<?php    session_start();
         print "<div id='bg'>";
         include "header.php";
?>
<?php
include_once("dbconnect.php");

$initStartLimit = 0;
$limitPerPage = 5;

$startLimit = $_REQUEST['startLimit'];
$numberOfRows = $_REQUEST['rows'];
$sortBy = $_REQUEST['sortBy'];
$sortOrder = $_REQUEST['sortOrder'];

if ($startLimit=="")
{
                 $startLimit = $initStartLimit;
}

if ($numberOfRows=="")
{
                 $numberOfRows = $limitPerPage;
}

if ($sortOrder=="")
{
                 $sortOrder  = "DESC";
}
if ($sortOrder == "DESC") { $newSortOrder = "ASC"; } else  {
$newSortOrder = "DESC"; }
$limitQuery = " LIMIT ".$startLimit.",".$numberOfRows;
$nextStartLimit = $startLimit + $limitPerPage;
$previousStartLimit = $startLimit - $limitPerPage;

if ($sortBy!="")
{
                 $orderByQuery = " ORDER BY ".$sortBy."
".$sortOrder;
}


$sql = "SELECT * FROM medication".$orderByQuery.$limitQuery;
//echo $sql."<br>";

$result = MYSQL_QUERY($sql);
$numberOfRows = MYSQL_NUM_ROWS($result);


if ($numberOfRows==0) {
?>

<center>Sorry. No records found !!!</center>
```

```php
`

<?php
}
else if ($numberOfRows>0) {

        $i=0;
?>
<br>
</center>
<html>
        <head>
        <title>PharmExSys-Power Search</title>
        </head>
        <body>
        <div id="body">
        <center>
        <table CELLSPACING="0" CELLPADDING="3" BORDER="1" WIDTH="770">
                <tr>
                <td><b>Name</b></td>
                <td><b>Class</b></td>
                <td><b>Type</b></td>
                <td><b>Manufacturer</b></td>
                <td><b>Drug Regulated Content</b></td>
                <td><b>Indication</b></td>
                td><a href="<? echo $PHP_SELF; ?>?sortBy=medication_dosage&sortOrder=<? echo $newSortOrder; ?>&startLimit=<? echo $startLimit; ?>&rows=<? echo $limitPerPage; ?>">

                <b>Dosage</b></a></td>
                <td><a href="<? echo $PHP_SELF; ?>?sortBy=medication_oral_admin&sortOrder=<? echo $newSortOrder; ?>&startLimit=<? echo $startLimit; ?>&rows=<? echo $limitPerPage; ?>">
                                        <b>Oral
Administration</b></a></td>
                <td><a href="<? echo $PHP_SELF; ?>?sortBy=medication_ppp_advice&sortOrder=<? echo $newSortOrder; ?>&startLimit=<? echo $startLimit; ?>&rows=<? echo $limitPerPage; ?>">
                                        <b>PPP
Advice</b></a></td>
                <td>
                        <a href="<? echo $PHP_SELF; ?>?sortBy=medication_contraindication&sortOrder=<? echo $newSortOrder; ?>&startLimit=<? echo $startLimit; ?>&rows=<? echo $limitPerPage; ?>">

                <b>Contraindication</b></a></td>
                <td><a href="<? echo $PHP_SELF; ?>?sortBy=medication_special_precaution&sortOrder=<? echo $newSortOrder; ?>&startLimit=<? echo $startLimit; ?>&rows=<? echo $limitPerPage; ?>">
                                        <b>Special
Precaution</b></a></td>
                <td><a href="<? echo $PHP_SELF; ?>?sortBy=medication_adverse_reaction&sortOrder=<? echo $newSortOrder; ?>&startLimit=<? echo $startLimit; ?>&rows=<? echo $limitPerPage; ?>">
                                        <b>Adverse
Reaction</b></a></td>
                <td><a href="<? echo $PHP_SELF; ?>?sortBy=medication_drug_indication&sortOrder=<? echo $newSortOrder; ?>&startLimit=<? echo $startLimit; ?>&rows=<? echo $limitPerPage; ?>">
                                        <b>Drug
Indication</b></a></td>
                <td><a href="<? echo $PHP_SELF; ?>?sortBy=medication_presentation_price&sortOrder=<? echo $newSortOrder; ?>&startLimit=<? echo $startLimit; ?>&rows=<? echo $limitPerPage; ?>">

                <b>Presentation/Price</b></a></td>
                <td><a href="<? echo $PHP_SELF; ?>?sortBy=medication_us_preg_cat&sortOrder=<? echo $newSortOrder; ?>&startLimit=<? echo $startLimit; ?>&rows=<? echo $limitPerPage; ?>">
                                        <b>US Preg
Cat</b></a></td>
                </tr>
                <?php
                        while ($i<$numberOfRows)
                        {

                        if (($i%2)==0) { $bgColor = "#FFFFFF"; } else { $bgColor = "#C0C0C0"; }

                        $thisMedication_id = MYSQL_RESULT($result,$i,"medication_id");
                        $thisMedication_name = MYSQL_RESULT($result,$i,"medication_name");
                        $thisMedication_class = MYSQL_RESULT($result,$i,"medication_class");
                        $thisMedication_type = MYSQL_RESULT($result,$i,"medication_type");
                        $thisMedication_manufacturer = MYSQL_RESULT($result,$i,"medication_manufacturer");
                        $thisDrug_regulated_content = MYSQL_RESULT($result,$i,"drug_regulated_content");
                        $thisMedication_indication = MYSQL_RESULT($result,$i,"medication_indication");
                        $thisMedication_dosage = MYSQL_RESULT($result,$i,"medication_dosage");
                        $thisMedication_oral_admin = MYSQL_RESULT($result,$i,"medication_oral_admin");
                        $thisMedication_ppp_advice = MYSQL_RESULT($result,$i,"medication_ppp_advice");
                        $thisMedication_contraindication = MYSQL_RESULT($result,$i,"medication_contraindication");
                        $thisMedication_special_precaution = MYSQL_RESULT($result,$i,"medication_special_precaution");
                        $thisMedication_adverse_reaction = MYSQL_RESULT($result,$i,"medication_adverse_reaction");
                        $thisMedication_drug_indication = MYSQL_RESULT($result,$i,"medication_drug_indication");
                        $thisMedication_presentation_price = MYSQL_RESULT($result,$i,"medication_presentation_price");
                        $thisMedication_us_preg_cat = MYSQL_RESULT($result,$i,"medication_us_preg_cat");

                ?>
                        <TR BGCOLOR="<? echo $bgColor; ?>">
                                <td nowrap><? echo $thisMedication_id; ?></td>
                                <td nowrap><a href="view_medication.php?medication_idField=<? echo $thisMedication_id; ?>"><? echo $thisMedication_name; ?></a></td>
                                <td nowrap><? echo $thisMedication_class; ?></td>
                                <td nowrap><? echo $thisMedication_type; ?></td>
                                <td nowrap><? echo $thisMedication_manufacturer; ?></td>
                                <td nowrap><? echo $thisDrug_regulated_content; ?></td>
                                <td nowrap><? echo $thisMedication_indication; ?></td>
                                <td nowrap><? echo $thisMedication_dosage; ?></td>
                                <td nowrap><? echo $thisMedication_oral_admin; ?></td>
                                <td nowrap><? echo $thisMedication_ppp_advice; ?></td>
                                <td nowrap><? echo $thisMedication_contraindication; ?></td>
                                <td nowrap><? echo $thisMedication_special_precaution; ?></td>
                                <td nowrap><? echo $thisMedication_adverse_reaction; ?></td>
                                <td nowrap><? echo $thisMedication_drug_indication; ?></td>
                                <td nowrap><? echo $thisMedication_presentation_price; ?></td>
                                <td nowrap><? echo $thisMedication_us_preg_cat; ?></td>

                        <TD><a href="view_medication.php?medication_idField=<? echo $thisMedication_id; ?>">View</a></TD>
                        <?php if($_SESSION['status'] == 'logged-in') { ?>
                        <TD><a href="edit_medication.php?medication_idField=<? echo $thisMedication_id; ?>">Edit</a></TD>
```

`

```
                <TD><a
href="delete_medication.php?medication_idField=<? echo
$thisMedication_id; ?>">Delete</a></TD>
                    <?php } ?>
                    </TR>
            <?php
                            $i++;

                } // end while loop
        ?>
        </table>


        <p> </p>
        <table width="550" border="0" cellpadding="2"
cellspacing="2" bgcolor="#000000">
            <tr>
                    <td><table width="550"  border="0"
cellpadding="1" cellspacing="0" bgcolor="#FFFFFF">
                    <?php
                    $i = 0;
                    while ($i<$numberOfRows)
                    {

                            if (($i%2)==0) { $bgColor =
"#FFFFFF"; } else { $bgColor = "#CCCCCC"; }

                            $thisMedication_id =
MYSQL_RESULT($result,$i,"medication_id");
                            $thisMedication_name =
MYSQL_RESULT($result,$i,"medication_name");
                            $thisMedication_class =
MYSQL_RESULT($result,$i,"medication_class");
                            $thisMedication_type =
MYSQL_RESULT($result,$i,"medication_type");
                            $thisMedication_manufacturer =
MYSQL_RESULT($result,$i,"medication_manufacturer");
                            $thisDrug_regulated_content =
MYSQL_RESULT($result,$i,"drug_regulated_content");
                            $thisMedication_indication =
MYSQL_RESULT($result,$i,"medication_indication");
                            $thisMedication_dosage =
MYSQL_RESULT($result,$i,"medication_dosage");
                            $thisMedication_oral_admin =
MYSQL_RESULT($result,$i,"medication_oral_admin");
                            $thisMedication_ppp_advice =
MYSQL_RESULT($result,$i,"medication_ppp_advice");
                            $thisMedication_contraindication =
MYSQL_RESULT($result,$i,"medication_contraindication");
                            $thisMedication_special_precaution =
MYSQL_RESULT($result,$i,"medication_special_precaution");
                            $thisMedication_adverse_reaction =
MYSQL_RESULT($result,$i,"medication_adverse_reaction");
                            $thisMedication_drug_indication =
MYSQL_RESULT($result,$i,"medication_drug_indication");
                            $thisMedication_presentation_price =
MYSQL_RESULT($result,$i,"medication_presentation_price");
                            $thisMedication_us_preg_cat =
MYSQL_RESULT($result,$i,"medication_us_preg_cat");
            ?>
                    <tr>
                            <td width="12" bgcolor="<? echo
$bgColor ?>"> </td>
                            <td width="399" bgcolor="<? echo
$bgColor ?>"><span style="font-weight: bold; font-size: 15px;"><? //echo
$thisMedication_id; ?></span> <span style="color: #000099; font-weight:
bold;"><a href="view_medication.php?medication_idField=<? echo
$thisMedication_id; ?>"><? echo $thisMedication_name . "</a>" . "<br>"
.$thisMedication_class." ".$thisMedication_type; ?> (<? echo
$thisMedication_manufacturer; ?>)
                                        <span style="color:
#000099; font-weight: bold;"><? echo $thisDrug_regulated_content;
?></span></span><br>
                            <?php echo
$thisMedication_indication; ?> <?php echo $thisMedication_dosage; ?>
<?php echo $thisMedication_oral_admin; ?> <br>
                                        <?php echo
$thisMedication_ppp_advice; ?> <?php echo
$thisMedication_contraindication; ?><br>
```

```
                            <?php echo
$thisMedication_special_precaution; ?> <?php echo
$thisMedication_adverse_reaction; ?><br>
                                        <?php echo
$thisMedication_drug_indication; ?> <?php echo
$thisMedication_presentation_price; ?><br>
                                        <?php echo
$thisMedication_us_preg_cat; ?><br>
                            </td>
                            <td width="111" valign="top"
bgcolor="<? echo $bgColor ?>">
                                        <a
href="view_medication.php?medication_idField=<? echo
$thisMedication_id; ?>"><br>View</a>
                                        <?php if($_SESSION['status'] ==
'logged-in') { ?>
                                        <a
href="edit_medication.php?medication_idField=<? echo
$thisMedication_id; ?>"><br>Edit</a><br>
                                        <a
href="delete_medication.php?medication_idField=<? echo
$thisMedication_id; ?>">Delete</a></td>
                                    <?php } ?>
                    </tr>
                    <?php
                            $i++;

                } // end while loop
        ?>
                </table></td>
            </tr>
        </table>
        <p> <?php
        if ($_REQUEST['startLimit'] != "")
        {
        ?>

        <a href="<? echo  $_SERVER['PHP_SELF'];
?>?startLimit=<? echo $previousStartLimit; ?>&limitPerPage=<? echo
$limitPerPage; ?>&sortBy=<? echo $sortBy; ?>&sortOrder=<? echo
$sortOrder; ?>">Previous <?php echo $limitPerPage; ?> Results</a>....
        <?php } ?>
        <?php
        if ($numberOfRows == $limitPerPage)
        {
        ?>
        <a href="<? echo $_SERVER['PHP_SELF'];
?>?startLimit=<? echo $nextStartLimit; ?>&limitPerPage=<? echo
$limitPerPage; ?>&sortBy=<? echo $sortBy; ?>&sortOrder=<? echo
$sortOrder; ?>">Next <?php echo $limitPerPage; ?> Results</a>
        <?php } ?>

        <?php
        } // end of if numberOfRows > 0
        ?>
        <table align="center">
                <?php if($_SESSION['status'] == 'logged-in') { ?>
                <tr><td><div><li><a
href="add_medication.php">Add a New Medication</a></div></td></tr>
                <?php } ?>
                <tr><td><div><li><a
href="list_medication.php">List All Medications</a></div></td></tr>
                <tr><td><div><li><a
href="medications.php">Search Medication</a></div></td></tr>
        </table>
        </center>
        </div>
        <?php include "footer.php";?>
        </body>
</html>
</div>
```

manage_assessment.php

```
<?php
/**
* Manage Assessment
* Source Code for admin view of assessment module.
*
```

`

```php
<?php      session_start();
           if($_SESSION['status'] == 'logged-in') {
           print "<div id='bg'>";
           include "header.php";
?>
<HTML>
           <HEAD>
           <TITLE>List Assessment</TITLE>
           </HEAD>
           <BODY>
                     <?php
                               require "dbconnect.php";
                               $sql = "SELECT * FROM
assessment";
                               $result = MYSQL_QUERY($sql);
                               $numberOfRows =
MYSQL_NUM_ROWS($result);
                               $i=0;
                               print "<div id='body'>";
                               print "<table align='center'
width='400px' border='1' rules='all'>";
                                         print "<tr tr
align='center'>

           <td>ID</td>
                                                   <td
colspan='3'>QUESTIONS</td>";

                                         while
($i<$numberOfRows){
MYSQL_RESULT($result,$i,"assessment_id");

$assessment_id =
MYSQL_RESULT($result,$i,"assessment_id");

$questions =
MYSQL_RESULT($result,$i,"questions");

$answer_key =
MYSQL_RESULT($result,$i,"answer_key");

$choices =
MYSQL_RESULT($result,$i,"choices");

                                         print "<tr
align='center'>";
                                                   print "<td>".
$assessment_id . "</td>";
                                                   print
"<td>".$questions . "</td>";
                                         ?>
                                                   <td><a
href='edit_assessment.php?assessment_id=<? echo $assessment_id;
?>'>Edit</a></td>
                                                   <td><a
href='delete_assessment.php?assessment_id=<? echo $assessment_id;
?>'>Delete</a></td>
                                                   <?php
                                                   print "</tr>";
                                                   $i++;
                                                   }
                                         print"</table>";
                               ?>
                                         <center><li><a
href='add_assessment.php'>Add an Assessment</a></center>
                                         </div>
           </body>
</html>
<?php include "footer.php";
           print "</div>";
           }
else{
                     header('Location:index.php');
           }
```

```php
?>
```

medication_deleted.php

```php
<?php
/**
 * Delete Medication
 * Source Code for medication module delete confirmation.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
 ?>

<?php      session_start();
           print "<div id='bg'>";
           include "header.php";
?>
<?php
           if($_SESSION['status'] == 'logged-in') {
           include_once("dbconnect.php");

           // Retreiving Form Elements from Form
           $thisMedication_id =
addslashes($_POST['thisMedication_idField']);


$sql = "DELETE FROM medication WHERE medication_id =
'$thisMedication_id'";
$result = MYSQL_QUERY($sql);

?>
<html>
           <head>
           <title>Medication Deleted</title>
           </head>
           <body><center>
           </body>
           <table bgcolor="white" width="770px" align="center">
                     <tr><td><font color="red"><em>Record  has been
deleted from database.</em></font></td></tr>
                     <tr><td><br></td></tr>
                     <tr><td><div><li><a
href="add_medication.php">Add a New Medication</a></div></td></tr>
                     <tr><td><div><li><a
href="list_medication.php">List All Medications</a></div></td></tr>
                     <tr><td><div><li><a
href="medications.php">Search Medication</a></div></td></tr>
                     <tr><td><br><br><br><br><br></td></tr>
           </table>

           </center>
</html>
<?php
           include "footer.php";
           print "</div>";
           }
           else{
                     header('Location:index.php');
           }
?>
```

medications.php

```
`

* PHP version 5
*
* LICENSE: This source file is subject to version 3.01 of the PHP license
* that is available through the world-wide-web at the following URI:
* http://www.php.net/license/3_01.txt.
*/
?>
<?php     session_start();
?>
<HTML>
        <HEAD>
        <TITLE>Medications</TITLE>
        </HEAD>
        <div id="bg">
                <center>

                <BODY>
                </BODY>
                <?php include "header.php"; ?>
                <div id="body">
                <form name="medicationSearchForm"
method="POST" action="search_medication.php">
                <table>
                        <tr><br>
                        <td align=right><font
color=red><b>Keyword :</b></font><input type="text" name="keyword"
size="50"></td>
                        </tr>
                </table>
                <table>
                        <tr height="30"><td
align=center><em><font color=red>OR search by any of these
fields:<td></tr>
                        <tr height="30"><td
align=right>Medication Name: <input type="text"
name="medication_name" size="40"></td>
                        <tr height="30"><td
align=right>Medication Type: <input type="text" name="medication_type"
size="40"></td>
                        <tr height="30"><td
align=right>Medication Class: <input type="text" name="medication_class"
size="40"></td>
                        <tr height="30"><td
align=right>Common Indication: <input type="text"
name="medication_indication" size="40"></td>
                        <tr height="30"><td
align=right>Manufacturer:<input type="text" name="manufacturer"
size="40"></td></tr>
                </table>
                <table
width="400"><tr><td><hr></tr></td></table>
                <input type="submit"
name="submitMedicationSearchForm" value="Ok">
                <input type="reset" name="resetForm"
value="Clear Form">

        </form>
                <?php if($_SESSION['status'] == 'logged-in') { ?>
                <table>
                <tr><td><li><a href="add_medication.php">Add
a new Medication</a></td></tr>
                <?php } ?>
                <tr><td><li><a href="list_medication.php">List
all Medications</a></td></tr>
                <tr><td><li><a href="medications.php">Search
Medication</a></td></tr>
                </table>
                </div>
                        <?php include "footer.php";?>
        </center>
        </div>
</HTML>
```

logout.php

```
<?php
/**
 * Logout
 * Source Code for the user session termination.
```

```
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php     session_start();
                $_SESSION['status']=';
                session_destroy();
                header('Location:index.php');
?>
```

search_medication.php

```
<?php
/**
 * Search Medication
 * Source Code for searching medication page.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php     session_start(); ?>
<?php
print"<div id='bg'>";
include "header.php";
include_once("dbconnect.php");

function highlightSearchTerms($fullText, $searchTerm,
$bgcolor="#FFFF99")
{
        if (empty($searchTerm))
        {
                return $fullText;
        }
        else
        {
                $start_tag = "<span style=\"background-color:
$bgcolor\">";
                $end_tag = "</span>";
                $highlighted_results = $start_tag . $searchTerm .
$end_tag;
                return eregi_replace($searchTerm,
$highlighted_results, $fullText);
        }
}

?>
<?php
$thisKeyword = addslashes($_REQUEST['keyword']);
$thisKeyMedication_name = addslashes($_REQUEST['medication_name']);
$thisKeyMedication_type = addslashes($_REQUEST['medication_type']);
$thisKeyMedication_class = addslashes($_REQUEST['medication_class']);
$thisKeyMedication_indication =
addslashes($_REQUEST['medication_indication']);
$thisKeyManufacturer = addslashes($_REQUEST['manufacturer']);

?>
<?php

$newSortMedication = $_REQUEST['sortBy'];
if ($newSortMedication == "") $newSortMedication = "medication_id";

//$sqlQuery = "SELECT * FROM medication WHERE ";
```

`

```php
if($thisKeyword == NULL){
        $count=0;

        if($thisKeyMedication_name!=NULL){
                if($count !=0)
                $sqlQuery = "SELECT * FROM medication
WHERE medication_name LIKE '$thisKeyMedication_name%";
                $sqlQuery .= " UNION ";
                //$sqlQuery .= " medication_name LIKE
'$thisKeyMedication_name%'";
                $count++;

        }
        if($thisKeyMedication_type != NULL){
                if($count !=0)
                $sqlQuery = "SELECT * FROM medication
WHERE medication_type LIKE '$thisKeyMedication_type%";
                $sqlQuery .= " UNION ";
                //$sqlQuery .= " medication_type LIKE
'$thisKeyMedication_type%'";
                $count++;

        }
        if($thisKeyMedication_class!=NULL){
                if($count !=0) $sqlQuery .= " UNION ";
                $sqlQuery .= " medication_class LIKE
'$thisKeyMedication_class%'";
                $count++;

        }
        if($thisKeyMedication_indication!=NULL){
                if($count !=0) $sqlQuery .= " UNION ";
                $sqlQuery .= " medication_indication LIKE
'$thisKeyMedication_indication%'";
                $count++;

        }
        if($thisKeyManufacturer!=NULL){
                if($count !=0) $sqlQuery .= " UNION ";
                $sqlQuery .= " medication_manufacturer LIKE
'$thisKeyManufacturer%'";
                $count++;

        }
        //echo $sqlQuery;
        $result = MYSQL_QUERY($sqlQuery);
        $numberOfRows = MYSQL_NUM_ROWS($result);
}
else{

        $thisKeyword = $thisKeyword;
        $sqlQuery = "SELECT *  FROM medication WHERE
medication_id LIKE '$thisKeyword%' OR medication_name LIKE
'$thisKeyword%' OR medication_class LIKE '$thisKeyword%'  OR
medication_type LIKE '$thisKeyword%'  OR medication_manufacturer
LIKE '$thisKeyword%'
                OR drug_regulated_content LIKE
'$thisKeyword%'  OR medication_indication LIKE '$thisKeyword%'  OR
medication_dosage LIKE '$thisKeyword%'
                OR medication_oral_admin LIKE
'$thisKeyword%'  OR medication_ppp_advice LIKE '$thisKeyword%'  OR
medication_contraindication LIKE '$thisKeyword%'
                OR medication_special_precaution LIKE
'$thisKeyword%'  OR medication_adverse_reaction LIKE '$thisKeyword%'
OR medication_drug_indication LIKE '$thisKeyword%'
                OR medication_presentation_price LIKE
'$thisKeyword%' OR medication_us_preg_cat LIKE '$thisKeyword%'";
        //      echo $sqlQuery;
                $result = MYSQL_QUERY($sqlQuery);
                $numberOfRows =
MYSQL_NUM_ROWS($result);
        }
?>
<?php
if ($numberOfRows==0) {
?>
 Sorry. No records found !!
 <?php
}
else if ($numberOfRows>0) {
```

```php
        $i=0;
?>
<html>
        <head>
        <title>PharmExSys - Search</title>
        <center>
        </head>
        <body>
        </body>
        <table CELLSPACING="0" CELLPADDING="3"
BORDER="1" WIDTH="770" BGCOLOR="white">
                <tr>
                        <!--td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_id&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">
                                        <b>Medication
ID</b></a></td-->
                        <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_name&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">

                <b>Name</b></a></td>
                        <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_class&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">

                <b>Class</b></a></td>
                        <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_type&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">

                <b>Type</b></a></td>
                        <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_manufacturer&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">

                <b>Manufacturer</b></a></td>
                        <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=drug_regulated_content&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">
                                        <b>Drug
Regulated Content</b></a></td>
                        <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_indication1&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">

                <b>Indication</b></a></td>
                        <!--td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_dosage&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">

                <b>Dosage</b></a></td>
                        <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_oral_admin&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">
                                        <b>Oral
Administration</b></a></td>
                        <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_ppp_advice&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">
                                        <b>PPP
Advice</b></a></td>
                        <td>
                                        <a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_contraindication&sortOrder=<?php
echo $newSortOrder; ?>&startLimit=<?php echo $startLimit;
?>&rows=<?php echo $limitPerPage; ?>">

                <b>Contraindication</b></a></td>
```

```
`

                              <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_special_precaution&sortOrder=<?php
echo $newSortOrder; ?>&startLimit=<?php echo $startLimit;
?>&rows=<?php echo $limitPerPage; ?>">
                                              <b>Special
Precaution</b></a></td>
                              <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_adverse_reaction&sortOrder=<?php
echo $newSortOrder; ?>&startLimit=<?php echo $startLimit;
?>&rows=<?php echo $limitPerPage; ?>">
                                              <b>Adverse
Reaction</b></a></td>
                              <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_drug_indication&sortOrder=<?php
echo $newSortOrder; ?>&startLimit=<?php echo $startLimit;
?>&rows=<?php echo $limitPerPage; ?>">
                                              <b>Drug
Indication</b></a></td>
                              <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_presentation_price&sortOrder=<?php
echo $newSortOrder; ?>&startLimit=<?php echo $startLimit;
?>&rows=<?php echo $limitPerPage; ?>">

        <b>Presentation/Price</b></a></td>
                              <td><a href="<?php echo
$PHP_SELF; ?>?sortBy=medication_us_preg_cat&sortOrder=<?php echo
$newSortOrder; ?>&startLimit=<?php echo $startLimit; ?>&rows=<?php
echo $limitPerPage; ?>">
                                              <b>US Preg
Cat</b></a></td-->
                      </tr>
              <?php
              $highlightColor = "#FFFF99";

                      while ($i<$numberOfRows)
                      {

                      if (($i%2)==0) { $bgColor = "#FFFFFF"; } else {
$bgColor = "#C0C0C0"; }
                              if($thisKeyword == NULL){
                              $thisMedication_id =
MYSQL_RESULT($result,$i,"medication_id");
                              $thisMedication_name =
MYSQL_RESULT($result,$i,"medication_name");
                              $thisMedication_class =
MYSQL_RESULT($result,$i,"medication_class");
                              $thisMedication_type =
MYSQL_RESULT($result,$i,"medication_type");
                              $thisMedication_manufacturer =
MYSQL_RESULT($result,$i,"medication_manufacturer");
                              $thisDrug_regulated_content =
MYSQL_RESULT($result,$i,"drug_regulated_content");
                              $thisMedication_indication =
MYSQL_RESULT($result,$i,"medication_indication");
                              $thisMedication_id =
highlightSearchTerms($thisMedication_id, $thisKeyword, $highlightColor);
                              $thisMedication_name =
highlightSearchTerms($thisMedication_name, $thisKeyMedication_name,
$highlightColor);
                              $thisMedication_class =
highlightSearchTerms($thisMedication_class, $thisKeyMedication_class,
$highlightColor);
                              $thisMedication_type =
highlightSearchTerms($thisMedication_type, $thisKeyMedication_type,
$highlightColor);
                              $thisMedication_manufacturer =
highlightSearchTerms($thisMedication_manufacturer,
$thisKeyManufacturer, $highlightColor);
                              $thisDrug_regulated_content =
highlightSearchTerms($thisDrug_regulated_content, $thisKeyword,
$highlightColor);
                              $thisMedication_indication =
highlightSearchTerms($thisMedication_indication,
$thisKeyMedication_indication, $highlightColor);
                              }
                              else{
                              $thisMedication_id =
MYSQL_RESULT($result,$i,"medication_id");
                              $thisMedication_name =
MYSQL_RESULT($result,$i,"medication_name");

                              $thisMedication_class =
MYSQL_RESULT($result,$i,"medication_class");
                              $thisMedication_type =
MYSQL_RESULT($result,$i,"medication_type");
                              $thisMedication_manufacturer =
MYSQL_RESULT($result,$i,"medication_manufacturer");
                              $thisDrug_regulated_content =
MYSQL_RESULT($result,$i,"drug_regulated_content");
                              $thisMedication_indication =
MYSQL_RESULT($result,$i,"medication_indication");
                              $thisMedication_id =
highlightSearchTerms($thisMedication_id, $thisKeyword, $highlightColor);
                              $thisMedication_name =
highlightSearchTerms($thisMedication_name, $thisKeyword,
$highlightColor);
                              $thisMedication_class =
highlightSearchTerms($thisMedication_class, $thisKeyword,
$highlightColor);
                              $thisMedication_type =
highlightSearchTerms($thisMedication_type, $thisKeyword,
$highlightColor);
                              $thisMedication_manufacturer =
highlightSearchTerms($thisMedication_manufacturer, $thisKeyword,
$highlightColor);
                              $thisDrug_regulated_content =
highlightSearchTerms($thisDrug_regulated_content, $thisKeyword,
$highlightColor);
                              $thisMedication_indication =
highlightSearchTerms($thisMedication_indication, $thisKeyword,
$highlightColor);
                              }
              ?>
                      <tr BGCOLOR="<?php echo $bgColor; ?>">
                              <!--td nowrap><?php echo
$thisMedication_id; ?></td-->
                              <td nowrap><a
href="view_medication.php?medication_idField=<?php echo
$thisMedication_id; ?>"><?php echo $thisMedication_name; ?></a></td>
                              <td nowrap><?php echo
$thisMedication_class; ?></td>
                              <td nowrap><?php echo
$thisMedication_type; ?></td>
                              <td nowrap><?php echo
$thisMedication_manufacturer; ?></td>
                              <td nowrap><?php echo
$thisDrug_regulated_content; ?></td>
                              <td nowrap><?php echo
$thisMedication_indication; ?></td>
                              <!--td nowrap><?php echo
$thisMedication_dosage; ?></td>
                              <td nowrap><?php echo
$thisMedication_oral_admin; ?></td>
                              <td nowrap><?php echo
$thisMedication_ppp_advice; ?></td>
                              <td nowrap><?php echo
$thisMedication_contraindication; ?></td>
                              <td nowrap><?php echo
$thisMedication_special_precaution; ?></td>
                              <td nowrap><?php echo
$thisMedication_adverse_reaction; ?></td>
                              <td nowrap><?php echo
$thisMedication_drug_indication; ?></td>
                              <td nowrap><?php echo
$thisMedication_presentation_price; ?></td>
                              <td nowrap><?php echo
$thisMedication_us_preg_cat; ?></td-->
                              <td nowrap><a
href="edit_medication.php?medication_idField=<?php echo
$thisMedication_id; ?>">Edit</a></td>
                              <td nowrap><a
href="delete_medication.php?medication_idField=<?php echo
$thisMedication_id; ?>">Delete</a></td>
                      </tr>
              <?php
                              $i++;

                      } // end while loop
              ?>
              </TABLE>
```

`

```php
                <?php
                } // end of if numberOfRows > 0
                ?>
                </center>
                                <table align="center" bgcolor="white"
width="770px">
                                <?php if($_SESSION['status'] == 'logged-in') { ?>
                                        <tr><td><div><li><a
href="add_medication.php">Add a New Medication</a></div></td></tr>
                                <?php } ?>
                                        <tr><td><div><li><a
href="list_medication.php">List All Medications</a></div></td></tr>
                                        <tr><td><div><li><a
href="medications.php">Search
Medication<br><br><br><br></a></div></td></tr>
                                </table>
                <?php include "footer.php";
                        print "</div>";
                ?>
</html>
```

tutorial.php

```php
<?php
/**
 * Tutorial Page
 * Source Code for the tutorial module.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<HTML>
        <HEAD>
        <TITLE>Tutorial</TITLE>
        </HEAD>
<frameset cols="20%,70%" FRAMEBORDER="0">
        <noframes>
                                Sorry you don't have a browser that
supports frames. Why don't you install a more recent browser, then come
back to this page.
        </noframes>

                <frame NORESIZE name="left_frame"
src="tutorial_left.php">
                        <!--NORESIZE MARGINWIDTH="0"-->
        <frame name="right_frame" src="tutorial_right.php">

</frameset>
</HEAD>
        <BODY>
        </BODY>
</HTML>
```

tutorial_deleted.php

```php
<?php
/**
 * Tutorial Deleted
 * Source Code for tutorial module delete confirmation.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>
```

```php
<?php    session_start();
                if($_SESSION['status'] == 'logged-in') {
                print "<div id='bg'>";
                include "header.php";
?>
<html>
        <head >
        <title>Tutorial Added</title>
        </head>
        <body>
        </body>

<?php
include_once("dbconnect.php");

                // Retreiving Form Elements from Form
                $thisTutorial_id = addslashes($_POST['thisTutorial_idField']);

$sql = "DELETE FROM tutorial WHERE tutorial_id = '$thisTutorial_id'";
$result = MYSQL_QUERY($sql);

?>
                <table align="center" width="770px" bgcolor="white"
height="230px">
                <tr><td>Record  has been deleted from database.</td></tr>
                <tr><td><li><a href="tutorial.php"
target="_top">Back</a></td></tr>
                <table>
</html>
<?php
                include "footer.php";
                print "</div>";
                }
                else{
                        header('Location:index.php');
                }
?>
```

tutorial_left.php

```php
<?php
/**
 * Tutorial Left View
 * Source Code for tutorial module left frame view.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright 2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php    session_start();
                        error_reporting(E_ERROR | E_WARNING |
E_PARSE);
?>
<html>
        <div id="bg">
        <?php include "header_frame.php"; ?>
        <head>
                <title>Tutorial List</title>
                <font color="white" face="Arial">
                <center><h2>Tutorial Topics</h2></center>
                <link rel="stylesheet" href="layout.css"
type="text/css" charset="utf-8" />
                <em>Please choose below:</em>
        </head>
                        <table height="400px" border="0">
                        <?php
                        include_once "dbconnect.php";
                        $sql = "SELECT * FROM tutorial";
                        $result = MYSQL_QUERY($sql);
                        $numberOfRows =
MYSQL_NUM_ROWS($result);
```

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`

```
                                $i=0;
                                while ($i<$numberOfRows){
                                $thisTutorial_id =
MYSQL_RESULT($result,$i,"tutorial_id");
                                $thisTutorial_name =
MYSQL_RESULT($result,$i,"tutorial_name");
                                $thisTutorial_lesson_name =
MYSQL_RESULT($result,$i,"tutorial_lesson_name");
                                ?>
                                <li><a target="right_frame"
href="tutorial_right.php?tutorial_idField=<? echo
$thisTutorial_id;?>"><font color="white" face="Arial"><?echo
$thisTutorial_name;?></font></a>

                                <?php
                                                $i++;
                                }               //end of
while-loop
                                ?>
                                <tr>
                                <br><br>
                                <?php if($_SESSION['status'] ==
'logged-in') { ?>
                                <a href="add_tutorial.php"
target="right_frame"><font color="white" face="Arial">Add a new
Tutorial</font></a>
                                </font>
                                <?php
                                } ?>
                                </tr>
                                <?php include "footer_frame.php"; ?>
                </table>
        </div>
</html>
```

tutorial_right.php

```
<?php
/**
 * Tutorial Right View
 * Source Code for tutorial module right frame view.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php    session_start();
         print "<div id='bg'>";
         include "header.php";
?>
<html>
        <head>
                        <title>Tutorial View</title>
        </head>
                        <body>
                        </body>
                                <table width="770px" align="center"
bgcolor="white">
                                <center>
                                <?php
                                include_once "dbconnect.php";
                                if($thisTutorial_id =
$_REQUEST['tutorial_idField']){
                                $thisTutorial_id =
$_REQUEST['tutorial_idField'];

                                }
                                else{
                                $thisTutorial_id=78;
                                }

                                //      $thisTutorial_id =
$_REQUEST['tutorial_idField'];
```

```
                                $sql = "SELECT * FROM tutorial
WHERE tutorial_id = '$thisTutorial_id'";
                                $result = MYSQL_QUERY($sql);
                                $numberOfRows =
MYSQL_NUMROWS($result);

                                $i=0;

                                while ($i<$numberOfRows){
                                $thisTutorial_id =
MYSQL_RESULT($result,$i,"tutorial_id");
                                $thisTutorial_name =
MYSQL_RESULT($result,$i,"tutorial_name");
                                $thisTutorial_lesson_name =
MYSQL_RESULT($result,$i,"tutorial_lesson_name");
                                $thisTutorial_lesson_discussion =
MYSQL_RESULT($result,$i,"tutorial_lesson_discussion");
                                $thisTutorial_other_info =
MYSQL_RESULT($result,$i,"tutorial_other_info");
                                $thisTutorial_references =
MYSQL_RESULT($result,$i,"tutorial_references");
                                echo "<tr><td><br>Tutorial Name:
$thisTutorial_name<br></td></tr>";
                                echo "<tr><td>Lesson:
$thisTutorial_lesson_name<br></td></tr>";
                                echo "<tr><td><textarea id='rule'
disabled rows='20'
cols='101'>$thisTutorial_lesson_discussion</textarea><br></td></tr>";
                                echo "<tr><td><textarea  id='rule'
disabled rows='15'
cols='101'>$thisTutorial_other_info</textarea></td></tr>";
                                echo "<tr><td><textarea id='rule'
disabled rows='5' cols='101'>Source:
$thisTutorial_references</textarea></td></tr>";

                                $i++;
                                }               //end of
while-loop
                                ?>
                                </center>
                                <!--a
href="add_tutorial.php">Add</a-->
                                <?php if($_SESSION['status'] ==
'logged-in') { ?>
                                <tr><td><a
href="edit_tutorial.php?tutorial_idField=<? echo $thisTutorial_id;
?>">Edit</a> |
                                <a
href="delete_tutorial.php?tutorial_idField=<? echo $thisTutorial_id;
?>">Delete</a></td></tr>
                                <?php } ?>
                        </table>
        <?php    include "footer.php";
                 print "</div>";
        ?>
</html>
```

update_assessment.php

```
<?php
/**
 * Update Assessment
 * Source Code for assessment module update.
 *
 * @package    PharmExSys
 * @author     Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php    session_start();
         if($_SESSION['status'] == 'logged-in') {
         print "<div id='bg'>";
         include "header.php";
```

`

```php
?>
<?php
        require "dbconnect.php";
        $assessment_id = $_REQUEST['assessment_id'];
        $questions = $_REQUEST['questions'];
        $answer_key = $_REQUEST['answer_key'];
        $choices = $_REQUEST['choices'];
        $sql = "UPDATE assessment SET  assessment_id =
'$assessment_id' , questions = '$questions' , answer_key = '$answer_key' ,
choices = '$choices'
        WHERE assessment_id = '$assessment_id'";
        $result = MYSQL_QUERY($sql);
?>
<html>
        <head>
        <title>Tutorial Added</title>
        </head>
        <body>

        </body>
                    <table align="center" cellspacing="2"
cellpadding="2" border="1" width="770px" bgcolor="white" rules="all">
                        <tr>
                            <td>Record  has been
updated in the database. Here is the updated information : </td>
                        </tr>
                        <tr align="center" height="20">
                            <td>ID:<br><? echo
$assessment_id; ?></td>
                        </tr>
                        <tr align="center" height="20">
                            <td>Question:<br><?
echo $questions; ?></td>
                        </tr>
                        <tr align="center" height="20">
                            <td>Answer Key:<br><?
echo $answer_key; ?></td>
                        </tr>
                        <tr align="center" height="20">

        <td>Choices:<br><textarea disabled rows="5" cols="40"
name="choices"><? echo $choices; ?></textarea></td>
                        </tr>
                        <tr>
                            <td align="center"><a
href="manage_assessment.php"><li>Assessment List</a></td>
                        </tr>
                    </table>
</html>
<?php include "footer.php";
        print "</div>";
        }
else{
                header('Location:index.php');
        }
?>
```

update_healthconcern.php

```php
<?php
/**
 * Update Health Concern
 * Source Code for health concern module update.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php   session_start();
        if($_SESSION['status'] == 'logged-in') {
        print "<div id='bg'>";
        include "header.php";
```

```php
?>
<?php
        require "dbconnect.php";
        $health_concern_id = $_REQUEST['health_concern_id'];
        $health_concern_name = $_REQUEST['hcname'];
        $health_concern_desc = $_REQUEST['hcdesc'];
        $sql = "UPDATE health_concern SET health_concern_name =
'$health_concern_name' , health_concern_desc = '$health_concern_desc'
WHERE health_concern_id = '$health_concern_id'";
        $result = MYSQL_QUERY($sql);
?>
<html>
        <head>
        <title>Health Concern Updated</title>
        </head>
        <body>

        </body>
                    <table align="center" cellspacing="2"
cellpadding="2" border="1" width="770px" bgcolor="white" rules="all">
                        <tr>
                            <td>Record has been
updated in the database. Here is the updated information : </td>
                        </tr>
                        <tr align="center" height="20">
                            <td>ID:<br><?php echo
$health_concern_id; ?></td>
                        </tr>
                        <tr align="center" height="20">
                            <td>Name:<br><?php
echo $health_concern_name; ?></td>
                        </tr>
                        <tr align="center" height="20">

        <td>Descripiton:<br><?php echo $health_concern_desc;
?></td>
                        </tr>
                        <tr>
                            <td align="center"><a
href="healthconcern.php"><li>Health Concern List</a></td>
                        </tr>
                    </table>
</html>
<?php include "footer.php";
        print "</div>";
        }
else{
                header('Location:index.php');
        }
?>
```

update_medication.php

```php
<?php
/**
 * Update Medication
 * Source Code for medication module update.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php   session_start();
        print "<html><div id='bg'>";
        include "header.php";
?>
<?php
        if($_SESSION['status'] == 'logged-in') {
        include_once("dbconnect.php");

        // Retreiving Form Elements from Form
```

```php
                    $thisMedication_id =
addslashes($_REQUEST['thisMedication_idField']);
                    $thisMedication_name =
addslashes($_REQUEST['thisMedication_nameField']);
                    $thisMedication_class =
addslashes($_REQUEST['thisMedication_classField']);
                    $thisMedication_type =
addslashes($_REQUEST['thisMedication_typeField']);
                    $thisMedication_manufacturer =
addslashes($_REQUEST['thisMedication_manufacturerField']);
                    $thisDrug_regulated_content =
addslashes($_REQUEST['thisDrug_regulated_contentField']);
                    $thisMedication_indication =
addslashes($_REQUEST['thisMedication_indicationField']);
                    $thisMedication_dosage =
addslashes($_REQUEST['thisMedication_dosageField']);
                    $thisMedication_oral_admin =
addslashes($_REQUEST['thisMedication_oral_adminField']);
                    $thisMedication_ppp_advice =
addslashes($_REQUEST['thisMedication_ppp_adviceField']);
                    $thisMedication_contraindication =
addslashes($_REQUEST['thisMedication_contraindicationField']);
                    $thisMedication_special_precaution =
addslashes($_REQUEST['thisMedication_special_precautionField']);
                    $thisMedication_adverse_reaction =
addslashes($_REQUEST['thisMedication_adverse_reactionField']);
                    $thisMedication_drug_indication =
addslashes($_REQUEST['thisMedication_drug_indicationField']);
                    $thisMedication_presentation_price =
addslashes($_REQUEST['thisMedication_presentation_priceField']);
                    $thisMedication_us_preg_cat =
addslashes($_REQUEST['thisMedication_us_preg_catField']);

$sql = "UPDATE medication SET medication_id = '$thisMedication_id' ,
medication_name = '$thisMedication_name' , medication_class =
'$thisMedication_class' , medication_type = '$thisMedication_type' ,
medication_manufacturer = '$thisMedication_manufacturer' ,
drug_regulated_content = '$thisDrug_regulated_content' ,
medication_indication = '$thisMedication_indication' , medication_dosage =
'$thisMedication_dosage' , medication_oral_admin =
'$thisMedication_oral_admin' , medication_ppp_advice =
'$thisMedication_ppp_advice' , medication_contraindication =
'$thisMedication_contraindication' , medication_special_precaution =
'$thisMedication_special_precaution' , medication_adverse_reaction =
'$thisMedication_adverse_reaction' , medication_drug_indication =
'$thisMedication_drug_indication' , medication_presentation_price =
'$thisMedication_presentation_price' , medication_us_preg_cat =
'$thisMedication_us_preg_cat'
                WHERE medication_id = '$thisMedication_id'";
$result = MYSQL_QUERY($sql);

?>

                <head>
                <title>Edit Medication</title>
                </head>
                <center>
                <body>
                <div id="body">
                <table align="center" bgcolor="white" width="600px"
align="center">
                            <tr><td>Record  has been updated in
the database. Here is the updated information :<br><br></td></tr>
                            <tr height="30">
                                        <td
align="left"><b>Medication ID : </b><? echo $thisMedication_id; ?></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Medication Name : </b><? echo $thisMedication_name;
?></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Medication Classification : </b><? echo
$thisMedication_class; ?></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Type : </b><? echo $thisMedication_type; ?></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Manufacturer : </b><? echo
$thisMedication_manufacturer; ?></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Drug Regulated Content : </b><? echo
$thisDrug_regulated_content; ?></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Indication : </b><br><textarea readonly rows="5"
cols="40"><? echo $thisMedication_indication; ?></textarea></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Dosage : </b><br><textarea readonly rows="5"
cols="40"><? echo $thisMedication_dosage; ?></textarea></td>
                            </tr>
                            <tr height="30">
                                        <td align="left"><b>Oral
Administration : </b><br><textarea readonly readonly  rows="5"
cols="40"><? echo $thisMedication_oral_admin; ?></textarea></td>
                            </tr>
                            <tr height="30">
                                        <td align="left"><b>PPP
Advice : </b><? echo $thisMedication_ppp_advice; ?></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Contraindication : </b><br><textarea readonly rows="5"
cols="40"><? echo $thisMedication_contraindication; ?></textarea></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Special Precaution : </b><br><textarea readonly rows="5"
cols="40"><? echo $thisMedication_special_precaution; ?></textarea></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Adverse Reaction : </b><br><textarea readonly rows="5"
cols="40"><? echo $thisMedication_adverse_reaction; ?></textarea></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Drug Indteraction : </b><br><textarea readonly rows="5"
cols="40"><? echo $thisMedication_drug_indication; ?></textarea></td>
                            </tr>
                            <tr height="30">
                                        <td
align="left"><b>Presentation/Price : </b><? echo
$thisMedication_presentation_price; ?></td>
                            </tr>
                            <tr height="30">
                                        <td align="left"><b>US
Preg Cat : </b><? echo $thisMedication_us_preg_cat; ?></td>
                            </tr>
                </table>
                <table align="center" bgcolor="white"
width="770px">
                            <tr><td align="center"><div><li><a
href="add_medication.php">Add a New Medication</a></div></td></tr>
                            <tr><td align="center"><div><li><a
href="list_medication.php">List All Medications</a></div></td></tr>
                            <tr><td align="center"><div><li><a
href="medications.php">Search Medication</a></div></td></tr>
                </table>

            </div>
            </body>
            </center>
<?php
        include "footer.php";
        print "</div></html>";
        }
else{
                header('Location:index.php');
        }
```

`

```
?>
```

update_tutorial.php

```php
<?php
/**
 * Update Tutorial
 * Source Code for tutorial module update.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php    session_start();
         if($_SESSION['status'] == 'logged-in') {
         print "<div id='bg'>";
         include "header.php";
?>
<?php
include_once("dbconnect.php");
?>
<?php
         $thisTutorial_id =
addslashes($_REQUEST['thisTutorial_idField']);
         $thisTutorial_name =
addslashes($_REQUEST['thisTutorial_nameField']);
         $thisTutorial_lesson_name =
addslashes($_REQUEST['thisTutorial_lesson_nameField']);
         $thisTutorial_lesson_discussion =
addslashes($_REQUEST['thisTutorial_lesson_discussionField']);
         $thisTutorial_other_info =
addslashes($_REQUEST['thisTutorial_other_infoField']);
         $thisTutorial_references =
addslashes($_REQUEST['thisTutorial_referencesField']);
?>
<?php
$sql = "UPDATE tutorial SET  tutorial_id = '$thisTutorial_id' ,
tutorial_name = '$thisTutorial_name' , tutorial_lesson_name =
'$thisTutorial_lesson_name' , tutorial_lesson_discussion =
'$thisTutorial_lesson_discussion' , tutorial_other_info =
'$thisTutorial_other_info' , tutorial_references = '$thisTutorial_references'
         WHERE tutorial_id = '$thisTutorial_id'";

$result = MYSQL_QUERY($sql);
?>
<html>
         <head>
         <title>Tutorial Updated</title>
         </head>
         <body>
         </body>
         <table align="center" width="770px" bgcolor="white">
                  <tr>
                                    <td align="right"><b>Tutorial ID :
</b></td>
                                    <td><? echo $thisTutorial_id;
?></td>
                  </tr>
                  <tr>
                                    <td align="right"><b>Tutorial Name
: </b></td>
                                    <td><? echo $thisTutorial_name;
?></td>
                  </tr>
                  <tr>
                                    <td align="right"><b>Lesson Name :
</b></td>
                                    <td><? echo
$thisTutorial_lesson_name; ?></td>
                  </tr>
                  <tr>
```

```php
                                    <td align="right"><b>Discussion  :
</b></td>
                                    <td><textarea disabled rows="20"
cols="80"><? echo $thisTutorial_lesson_discussion; ?></textarea></td>
                  </tr>
                  <tr>
                                    <td align="right"><b>Other Info :
</b></td>
                                    <td><textarea disabled rows="5"
cols="80"><? echo $thisTutorial_other_info; ?></textarea></td>
                  </tr>
                  <tr>
                                    <td align="right"><b>References :
</b></td>
                                    <td><textarea disabled rows="5"
cols="80"><? echo $thisTutorial_references; ?></textarea></td>
                  </tr>
                  <tr>
                  </table>
                  <table width="770px" bgcolor="white"
align="center">
                                    <tr><td><a
href="edit_tutorial.php?tutorial_idField=<? echo $thisTutorial_id;
?>">Edit</a>
                                    <a
href="delete_tutorial.php?tutorial_idField=<? echo $thisTutorial_id;
?>">Delete</a>
                                    <a href="tutorial.php"
target="_top">Back</a></td></tr>
                  </table>
</html>
<?php
         include "footer.php";
         print "</div>";
         }
         else{
                  header('Location:index.php');
         }
?>
```

view_medication.php

```php
<?php
/**
 * View Medication
 * Source Code for viewing medication details.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>

<?php session_start();
         print "<div id='bg'>";
         include "header.php";
?>
<?php include "dbconnect.php";
         print "<center>";

         if($medication_name =
$_REQUEST['medication_nameField']){
                  $medication_name =
$_REQUEST['medication_nameField'];
                  $query=mysql_query(" select * from medication
where medication_name='$medication_name'");
                  print "<div id='body'>";
                  print "<table border='1'>";
                  while($result=mysql_fetch_array($query)){  ?>
                           <tr><td>Medication Name:</td><td>
<?php echo $result['medication_name'] ?></td></tr>
                           <tr><td>Medication Class:</td><td>
<?php echo $result['medication_class']?> </td></tr>
```

```
                                    <tr><td>Medication Type:</td><td>
<?php echo $result['medication_type'] ?></td></tr>
                                    <tr><td>Manufacturer:</td><td>
<?php echo $result['medication_manufacturer'] ?></td></textarea></tr>
                                    <tr><td>Drug Regulated
Content:</td><td> <?php echo $result['drug_regulated_content']
?></td></tr>
                                    <tr><td>Medication
Indication:</td><td><?php echo
$result['medication_indication']?></td></tr>
                                    <tr><td>Medication
Indication:</td><br><td><textarea readonly rows="5" cols="40"><?php
echo $result['medication_indication'] ?></textarea></td></tr>
                                    <tr><td>Medication
Dosage:</td><br><td><textarea readonly rows="5" cols="40"><?php echo
$result['medication_dosage'] ?></textarea></td></tr>
                                    <tr><td>Oral
Administration:</td><br><td><textarea readonly rows="5"
cols="40"><?php echo $result['medication_oral_admin']
?></textarea></td></tr>
                                    <tr><td>PPP
Advice:</td><br><td><textarea readonly rows="5" cols="40"><?php echo
$result['medication_ppp_advice'] ?></textarea></td></tr>
                                    <tr><td>Medication
Contraindication:</td><br><td><textarea readonly rows="5"
cols="40"><?php echo $result['medication_contraindication']
?></textarea></td></tr>
                                    <tr><td>Special
Precaution:</td><br><td><textarea readonly rows="5" cols="40"><?php
echo $result['medication_special_precaution'] ?></textarea></td></tr>
                                    <tr><td>Adverse
Reaction:</td><br><td><textarea readonly rows="5" cols="40"><?php
echo $result['medication_adverse_reaction'] ?></textarea></td></tr>
                                    <tr><td>Drug
Interaction:</td><br><td><textarea readonly rows="5" cols="40"><?php
echo $result['medication_drug_indication'] ?></textarea></td></tr>

                        <tr><td>Presentation/Price:</td><td><?php echo
$result['medication_presentation_price'] ?></td></tr>
                                    <tr><td>US Pregnancy
Catalogue:</td><td><?php echo $result['medication_us_preg_cat']
?></td></tr>
                                    <tr><td  colspan="2"
align="center"><input type="button" name="cancel" value="Go Back"
onClick="javascript:history.back();"></td></tr>
<?php                    }
            print "</table>";
            print "</center>";
            include "footer.php";
            print "</div>";
            }
?>
<?php include "dbconnect.php";
        print "<center>";

        if($medication_id = $_REQUEST['medication_idField']){
                $medication_id =
$_REQUEST['medication_idField'];
                        $query=mysql_query(" select * from medication
where medication_id='$medication_id'");
                        print "<div id='body'>";
                        print "<table border='1 'rules='all'>";
                        while($result=mysql_fetch_array($query)){   ?>
                                    <tr><td>Medication Name:</td><td>
<?php echo $result['medication_name'] ?></td></tr>
                                    <tr><td>Medication Class:</td><td>
<?php echo $result['medication_class']?> </td></tr>
                                    <tr><td>Medication Type:</td><td>
<?php echo $result['medication_type'] ?></td></tr>
                                    <tr><td>Manufacturer:</td><td>
<?php echo $result['medication_manufacturer'] ?></td></textarea></tr>
                                    <tr><td>Drug Regulated
Content:</td><td> <?php echo $result['drug_regulated_content']
?></td></tr>
                                    <tr><td>Medication
Indication:</td><br><td><textarea readonly rows="5" cols="40"><?php
echo $result['medication_indication'] ?></textarea></td></tr>
                                    <tr><td>Medication
Dosage:</td><br><td><textarea readonly rows="5" cols="40"><?php echo
$result['medication_dosage'] ?></textarea></td></tr>
```

```
                                    <tr><td>Oral
Administration:</td><br><td><textarea readonly rows="5"
cols="40"><?php echo $result['medication_oral_admin']
?></textarea></td></tr>
                                    <tr><td>PPP
Advice:</td><br><td><textarea readonly rows="5" cols="40"><?php echo
$result['medication_ppp_advice'] ?></textarea></td></tr>
                                    <tr><td>Medication
Contraindication:</td><br><td><textarea readonly rows="5"
cols="40"><?php echo $result['medication_contraindication']
?></textarea></td></tr>
                                    <tr><td>Special
Precaution:</td><br><td><textarea readonly rows="5" cols="40"><?php
echo $result['medication_special_precaution'] ?></textarea></td></tr>
                                    <tr><td>Adverse
Reaction:</td><br><td><textarea readonly rows="5" cols="40"><?php
echo $result['medication_adverse_reaction'] ?></textarea></td></tr>
                                    <tr><td>Drug
Interaction:</td><br><td><textarea readonly rows="5" cols="40"><?php
echo $result['medication_drug_indication'] ?></textarea></td></tr>

                <tr><td>Presentation/Price:</td><td><?php echo
$result['medication_presentation_price'] ?></td></tr>
                                    <tr><td>US Pregnancy
Catalogue:</td><td><?php echo $result['medication_us_preg_cat']
?></td></tr>
                                    <tr><td colspan="2"
align="center"><input type="button" name="cancel" value="Go Back"
onClick="javascript:history.back();"></td></tr>

<?php                   } ?>
<?php
            print "</table>";
            print "</center>";
            include "footer.php";
            print "</div>";
            }
?>


view_patientadvice.php

<?php
/**
 * View Patient Advice
 * Source Code for viewing patient advice details.
 *
 * @package   PharmExSys
 * @author    Renzon Greg D. Manansala - BS Computer Science
 * @copyright  2010
 * PHP version 5
 *
 * LICENSE: This source file is subject to version 3.01 of the PHP license
 * that is available through the world-wide-web at the following URI:
 * http://www.php.net/license/3_01.txt.
 */
?>


<html>
<body>
<?php require "dbconnect.php";
            $delim = "#";
            print "<table align='center' border='1'>";
            $health_advice = $result['advice_id'];
            $query=mysql_query("select * from advice where
advice_id='$health_advice'");
            $result=mysql_fetch_array($query);
            $advice_array = strtok($result[advice_details], $delim);
            print "<tr><h2>Patient Advice</h2>";
            print "<div style=' overflow-y: none; overflow-x: none;'><table
width='600'>";
                        while(is_string($advice_array)){
                                    if($advice_array){
                                                print "<tr><td
align='left'><li>$advice_array<br></td><tr>";
                                    }
                                    $advice_array = strtok($delim);
                        }
```

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```
`


                print "</table></div></tr><br>";                                                   ?>
                print "<tr><h2>Treatment Option</h2>";              <?php
                $treatment_array = strtok($result[treatment_option], $delim);             print "<h2> List of Medications</h2>";
                print "<div style=' overflow-y: none; overflow-x: none;'><table      $query=mysql_query("select * from medication where
width='600' border='1'>";                                      health_concern_id='$health_advice'");
                        while(is_string($treatment_array)){                while($result=mysql_fetch_array($query)){
                                if($treatment_array){                         $name = $result[medication_name];
                                        print "<tr><td                    print "<a
align='left'><br>$treatment_array<br></td><tr>";              href='view_medication.php?medication_nameField=$name'><br>$result[me
                                }                              dication_name]</a>";
                                $treatment_array = strtok($delim);              }
                        }                                              ?>
                print "</table></div></tr>";                         </body>
                print "</table>";                                    </html>
```

`

XI. Acknowledgement

Good things come to those who wait and work for it! This has been my rallying cry and constant reminder to myself ever since I started (and even after) my UP life. Thesis, Special Project or whatever name you want to call it, one thing is certain - you'll be grasping for dear life just to make it through!

It has been nth years now since I defended my thesis and I still remember all the fraught and sleepless nights I had to endure just to deliver what is expected of me.

Yes, it has been nth years now – 4 years to be exact and I still remember the sheer happiness I felt after completing what I thought to be an insurmountable task. It was a defining moment for me and for all the people who in one way or another lend a helping hand to me.

So, I'm dedicating my thesis and this entire chapter to acknowledge and give credits to all the people who contributed in the realization not only of this project but my aspirations in life.

Let me start by thanking my ever gracious parents and siblings who never doubted that I can and will reach all of my goals in life. I may not express this as much as I'd like to but I'm truly blessed to have a very supportive and loving family like you. We may not have much but I wouldn't want to trade our home to any material things in life.

`

I'd like to give my sincere appreciation also to my friends, classmates and mentors whom I look up to and have nothing but respect and admiration.

To my very close confidants, Rikki, Mario, Eunice, Mara, Maita, Yanyan, Joy, Sam, Vilee, Wujia and Tintin. Thank you not only for all the best memories but to actually put up with all of my crazy.

To my advisor, Doc and Ma'am Magboo, Ms. Eden and to the rest of the teaching force of UP Manila. Thank you for dedicating your time and for all the patience you have in shaping the minds of the future. We are all eternally grateful to your passion and dedication in your craft.

And to quote the musical song For Good, "Because I knew (all of) you…I have been changed (and still changing) for good."

Again, from the bottom of my heart. THANK YOU!