

University of the Philippines, Manila  
College of Arts and Sciences  
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# **Nearest Hospital Search and Inquiry System**

A SPECIAL PROBLEM

In Partial Fulfillment for the Degree in Bachelor Of Science in Computer  
Science

Submitted by:  
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**ACCEPTANCE SHEET**

The Special Problem entitled "Nearest Hospital Search and Inquiry System" prepared and submitted by Meybel R. Martirez in partial fulfillment 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**

Because of the overlapping problems beset by health institutions, various systems and development programs are made to improve our health care delivery services. Aside from the online medical services rendered for the public, SMS technology greatly helps in disseminating health-related information.

Nearest Hospital Search and Inquiry System is a web-based application that generates clinical data provided by the registered hospitals. It allows both registered and general users to issue their queries on the hospital nearest to their location, doctors' schedule of activities and the list of available facilities and specialties. With its SMS application it could determine the hospital they need provided that the categories are specified. Users may readily send their inquiries anytime and anywhere. Reports from the working system are sent back to the mobile users as well as the correct syntax for errors in message forma

**Keywords:** hospital, facility, specialty, doctor, schedule, synonyms, SMS

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### **INTRODUCTION**

#### **A. Background of the Study**

At present, health institutions like hospitals, barangay health stations or health centers and rural health units, continue to carry the major burden of providing health services to the majority of the Filipino [1]. One of the pressing problems in the clinical environment in the Philippines is the poor health care delivery system primarily caused by limited medical resources and facilities, poor transportation means and poorly equipped hospitals. [2]. In a survey made by Ministry of Health, a ratio of one bed for every 603 Filipinos are assigned out of the 79,703 bed services in the entire Philippines. Government hospitals and health stations are operating with inadequate funds, thereby affecting both the quality and quantity of their health service delivery system [1].

In the Philippine context, operation and management of health institutions are beset with a number of overlapping problems reflective of our country's current difficulties. Internal problems may include high cost of hospital operation, equipment, facilities maintenance supply, medicine and other commodities. Others are lack of good managers, difficulties of medical

recording and accounting, and labor union problems regarding low wages and salaries of health care providers. External problems on the other hand, may include erroneous health beliefs, uncooperative clients and inadequate baseline information of the residents and the government itself [1].

Because of these concerns, various attempts were made by the government and private health institutions to seek improved ways of delivering health care services to all sectors of population. The Metro Manila Health and Sanitation services in 1975 developed a system based on the "concept of three-level health care" [3]. Another development program was made by the Philippine General Hospital regarding the continuous exhortation for the public to prioritize health centers. With all these attempts, patients, of course, would generally want the best services to accommodate their needs [4]. Their usual inquiries are made through telephone calls asking which check-ups and confinements can be scheduled. However, this method may not be always appropriate during emergency cases where patients need immediate assistance and priority. Normally, nobody attends the telephone after office hours.

With the advancements in the field of medical technology, cellular phones are greatly in demand. Emergence of new technologies and new technology standards offer an innovative approach for sharing clinical information. People can readily use Short Messaging Service (SMS) to generate inquiries and reports aside from phone calls and direct medical services search. Moreover, locating systems regarding tracking facilities, equipments and other resources are some decisions still subjective today [5]. With General Packet Radio Service (GPRS), for example, one can determine one's location through the benefit of mobile technology.

## **B. Statement of the Problem:**

Every year, many patients lay unattended due to some factors affecting rapid health care delivery. Such include geographic location, limited resources, poor transportation means and unfamiliarity of the environment. Some patients will choose hospitals whose location, type

of services and doctor's schedules answer their needs. They would want hospitals and clinics that could render their desired services. For instance, many people search for the closest hospitals or those that offer rare services. Others would opt for hospitals that can answer their complaints under specific schedules. A lot would still prefer searching for hospitals and clinics that offer particular specializations not accessible to other health services. Basically, it is difficult to be looking for hospitals without knowing what services they can provide. Patients can hardly choose among the available service providers that could respond to their pressing complaints.

Some people have internet access having the option to query online. Rather than determining information via SMS, they would want to search online because it outputs a wide-range of results.

Usual inquiries made through the use of telephone do not always guarantee immediate response for patients' needs especially during emergency cases. Telephone lines are not made available all the time. Lines could be busy and patients would have difficulty to contact such services for urgent situations. Some hospitals have step by step voice instructions which cannot be understood well. Not everybody has landline numbers also. Moreover, calls are no longer entertained after office hours.

Text messages are sent and received immediately as the need arises, however not all text queries or reports are successfully transmitted at the receiving end. Sending incorrect format is cost inefficient. Customers' needs are left unattended and messages are simply disregarded.

### **C. Objectives of the Study**

This special project aims to create a web-based system that employs SMS technology that would determine the closest hospital accessible for specialty medication which provides the following functions:

1. allow mobile users and online users to issue their queries on the hospital nearest

to their location, doctors' available for a specified specialization, and doctors' schedule of services

2. allow online users to view hospital names and information
3. allow hospitals to
  - a. add hospital information
  - b. edit hospital information
  - c. delete hospital information
4. allow the system administrator to register hospitals, assigns hospital account and password to them and update coordinates
5. provide mobile users with correct syntax in case of errors in message format

#### **D. Significance of the Study**

This project can reduce the time looking for health-giving services because the users can readily proceed to the nearest health center that could offer medications to the patient-in-need. This is highly beneficial to patients since they could immediately inquire on necessary hospital information such as the nearby hospital, its specialized doctors and their schedules. With the use of short messaging service, inquiries can be readily sent anytime and anywhere, thus reports and information from the working system are sent back to the users. Text messaging may call for charges corresponding to each message, but still it is cheaper and is of practical use nowadays.

The users will benefit because it may reduce their anxieties as to where the patient may be brought. In any emergency case, they can automatically learn the most possible area to treat their patient even under their given schedules. Moreover, they can readily have a list of specializations to chose from, schedules they prefer and a faster reply from any queries he has made.

Hospitals can promote to the public the list of specialties they offer thru online system. The Department of Health (DOH), as the lead agency in the health sector and the one that primarily house the said system can support promotion of hospital services. The people can readily access the system and search for necessary hospital information. [6, 7].

Another possible significance of this is convergence. Patients would be able to consider even the less popular hospitals aside from the major hospitals that are usually search upon.

With the use of Short Messaging Service (SMS), users are given the convenience of wireless connectivity. This is a very practical alternative for generating inquiries rather than phone calls and direct hospital search. Inquiring via SMS is entirely faster, more efficient and accessible for any users. By providing instant messaging service, patients are delivered to hospitals in time to their immediate needs.

## **E. Scope and Limitation**

1. The system only generates the clinical information based on the data given by the registered hospitals. Range of locality is within Metro Manila.
2. The system administrator will maintain the main server of the system housed by the DOH, for instance. Hospital information must be coordinated with the acting system administrator.
3. General categories of specializations and facilities are based from the lists obtained from every hospital. Separate synonym tables were made for the abbreviations of the specialization and facilities.
4. Similar street names for same city are not allowed. The street names to be identified by the system are the common names of the streets found in the look up table.
5. X and Y coordinates are assigned by the system administrator to streets and hospitals. X as the latitude and Y as the longitude coordinates of the location. The system administrator will have a physical and digitized copy of the map of the hospitals for



- mapping purposes. In order to determine the nearest hospital within the area, distance formula is used.
6. The locations to be considered are the major streets, avenues and highways. It will not include minor streets or alleys that are not covered in the map.
  7. The cost of the messages would be charged from the mobile users. Payment scheme would be like that of the Globe and Smart service providers. An amount of 2.50 would be charged to the user for every text message he sent.

## **II. Review of Related Literature**

The use of wireless technologies advances our form of medical services. It offers functional advantages for easy access, efficiency, timeliness and emergency care effectiveness. An article discusses the consumers' application of SMS technology, having been an ideal messaging medium. When the information to be communicated is short or it would take too long to have a full conversation or someone is traveling overseas or not available to take a voice call, Network operators, for instance, typically charge the same to send a short message to someone in the same room as they do to someone traveling overseas with their mobile phone. Since short messages are proactively delivered to mobile phones that are typically kept in the user's pocket and can be stored for later reference. SMS is often more convenient than email or Data to communicate amongst distributed and mobile groups of people. [8]

An inquiry system was made by the Academy of Art Colleges. AAC has provided an inquiry page for the benefit of education and experience for the users' specific career goals. They offered classes for personal enrichment and programs through the information inquiry scheme that allows any user to ask using the system.[9]

The Wireless Protocol technology implemented in newer mobile phones has built-in facilities for handling much of the information processing as part of the clinical work. Using an open source software, two investigators named Schacht Hansen M and Dorup J aimed to test a practical approach by porting a relational database of the Pharmaceutical catalogue to the Wireless Application Protocol.[9]

More than 50 Billion SMS (Short Messaging Service) text messages were sent over the world's GSM (TM) networks in the first three months of 2001. The latest figures confirm sustained global consumer interest in text communications with networks on track exceed the forecast of 200 billion global messages during 2001[10,11].

A news article excerpt states that due to the low cost structure of SMS services in the Philippines, the technology started its prodigious growth as early as the late 1990's. [12]

During the parsing stage, illegal characters might be generated enabling error message parameters. Syntax checking structures need be tested [13]. To redefine parsing, it must do the following: explain the relation between syntax and IMPS expressions; explain the default syntax, which we refer to as the ``string syntax," and briefly to explain how you can extend or modify this syntax; and explain how you can redefine the syntax altogether. [14]

Goldberg and his colleagues studied on the development of UMLS based semantic parser and present a preliminary evaluation of the parser in recognition of disease related clinical problems. After getting samples during their experimentation, they concluded that parser significantly enhance over subsequent iterations to symbolize clinical data. [15]

EarthTRACK GPS Vehicle Tracking System was made to track the vehicle's exact location using "satellite (GPS) technology" and Cellular communications. This uses a Marcus "realtime" tracking system with Nation wide coverage. With this cellular based tracker, the user can view the vehicle's location using any browser equipped PC connected to the internet. An ET2010 system for wide area satellite-based tracking and communication is a fast "realtime" locator with the same coverage footprint as the M2000 has same reporting features. It consists of an external dual GPS-satellite antenna appropriate for all weather conditions. Another system is the FMS2000 that automatically downloads through a 900 MHz radio connected to the computer. This system quickly determines the available vehicles in your lot and which are out [16].

RISD Communications Department in Texas created a school locator system to find schools associated with ones home address. The user is simply required to enter House number and Street name to explore the system. However, this search tool does not guarantee accurate data for all addresses for all times. Not all schools can be located also [17].

ZipFing Locator is a system that designed to be a store finder that allows customers to perform a proximity search returning all store locations in their vicinity. Bridger Systems' ZIPFind Locator allows us to offer our clients a fast, accurate, and versatile tool through which their clients can find them. The Locator allows us to do this without having to invest hundreds of hours into data collection, and search algorithm development. In addition, we never have to worry about updating our data because Bridger Systems can provide us with the updates both quickly and easily [18].

GPRS or General Packet Radio Service technology under Globe networks was built with network infrastructures to enhance GSM mobile communications system supporting data

packets. GPRS enables the continuous flow of Internet data packets over the mobile communication system for such applications as Web browsing and file transfer [19].

The Metro Manila Health and Sanitation services in 1975 developed a system based on the "concept of three-level health care". The effort aimed to strengthen the health centers providing first contact of health care while the hospitals will provide the secondary and tertiary levels of health care [3]. Another development program was made by the Philippine General Hospital regarding the continuous exhortation for the public to prioritize health centers [4].

### **III. THEORETICAL FRAMEWORK**

#### **A. Information System**

An information system can be automated or manual, comprises people, machines, and/or methods organized to collect, process, transmit, and disseminate [data](#) representing [user information](#). . Moreover, any telecommunications and/or [computer](#) related equipment or interconnected system or subsystems of equipment that is used in the [acquisition](#), [storage](#), manipulation, management, movement, control, display, [switching](#), [interchange](#), [transmission](#), or reception of voice and/or data, and includes [software](#), [firmware](#), and [hardware](#) is part of the information scheme. [12].

Information systems are the software and hardware systems that support data-intensive applications on design and implementation of languages, data models and algorithms. [13] Basically, it tackles data-related issues from the fields of data mining, information retrieval, natural language processing, internet data management, visual and audio information systems,

scientific computing, and organizational behavior. Thus, the practical data of information systems bring significantly new ground to the public.

## **B. Database Systems**

Database systems refer to both database application and Database Management System (DBMS) together. Database applications are developed for managing specifications. Such examples include patient records and telephone companies.

DBMS provides the services need by the database application to give users easy access the database. With DBMS, end users are capable of running applications without having to know all the complicated process. It protects data from damages when one or more users try to access the file at the same time.

Under DBMS are list of references to information about Database technologies and key database management systems (DBMS) [12].

## **C. Database Management System**

A DBMS provides the services needed by database applications to give users easy access to the information in the database. Database applications are computer programs that store, update, and retrieve data from a database. Hundreds of thousands of database applications have been developed for managing specific data, such as hospital patient records, telephone company customer records, train seat reservations, or retail store inventory. (The term database system is often used to refer to a database application and DBMS together.) A DBMS eliminates the need to program and maintain data management functions as part of the application software. End users can run the applications without having to know all the complicated processes required to store, update, and retrieve data, because the applications hide such details. A DBMS also protects data from damage when many users try to retrieve and update the same data at the same time, or when the computer shuts down [19].

## D. Short Messaging Service

The Short Message Service (SMS) is the ability to send and receive text messages to and from mobile telephones. The text can comprise of words or numbers or an alphanumeric combination. [8]

SMS is very popular with users of [GSM](#) phones, but also, increasingly, on [CDMA](#) and [TDMA](#) phones. It started out its popularity in Europe and Asia but its concept were accepted in America and other countries. [11]. In fact, The SMS market in the European Union reached one billion short messages per month in April 1999. SMS was created as part of the GSM Phase 1 standard. The first short message is believed to have been sent in December 1992 from a Personal Computer (PC) to a mobile phone on the Vodafone GSM network in the UK. Each short message is up to 160 characters is length when Latin alphabets are used, and 70 characters in length when non-Latin alphabets such as Arabic and Chinese are used. [8]

## E. Distance Formula and Euclidean Distance

The distance,  $d$ , between two Cartesian coordinates equals the square root of the squared horizontal difference (between the two points) plus the squared vertical distance --  $d = \sqrt{[(\Delta x)^2 + (\Delta y)^2]}$  For three points,  $d = \sqrt{[(\Delta x)^2 + (\Delta y)^2 + (\Delta z)^2]}$ . Note:  $\Delta x = x_2 - x_1$ . This distance formula can be expanded into the arc-length formula.

Euclidean distance is the so-called 2-norm distance. It is a generalization of the Pythagorean Theorem to more than two coordinates, that of which to be obtained if the distance between two points were measured with a ruler: the "intuitive" idea of distance.

The **Euclidean distance** of two points  $x = (x_1, \dots, x_n)$  and  $y = (y_1, \dots, y_n)$  in Euclidean  $n$ -space is computed as follows:

$$\sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2 + \dots + (x_n - y_n)^2} = \sqrt{\sum_{i=1}^n (x_i - y_i)^2}$$

By using this formula as distance, Euclidean space becomes a [metric space](#). [20].

This formula above will be used in order to solve for the coordinates of the specified location and the distance from the available hospitals.

## **F. Geographic Information Systems**

Geographic Information System is a unique system designed for a particular application that stores, enhances, combines, and analyzes layers of geographic data to produce interpretable information. A GIS may include computer images, hardcopy maps, statistical data, and any other data needed for a study, as well as computer software and human knowledge. GIS are used for solving complex geographic planning and management problems.[21]

GIS combines layers of information about a place to give you a better understanding of that place. What layers of information you combine depends on your purpose—finding the best location for a new store, analyzing environmental damage, viewing similar crimes in a city to detect a pattern, and so on.[22]

## **G. Definition of Terms**

**Gnokii** – Gnokii is an open source project that aims to provide tools and user space driver for use with mobile phones under Linux, Unix and Win32. It offers application on data calls, updating address book, changing calendar entries, sending and receiving SMS messages and loading ring tones depending on the phones used. However, there is limited support of Nokia. Models like 6110, 6510, 5110, 8310, etc are among those supported by gnokii software. [23]

**Specialties / Medical Specialties** – the list of medical services of varying categories.

**Parsing** - means breaking down a string into its component characters and substrings and analyzing them.[18]

**Inquiry System** - a data warehouse that holds information[19]

**GPS (Global Positioning System)** - The gps system consists of three pieces. There are the satellites that transmit the position information, there are the ground stations that are used to control the satellites and update the information, and finally there is the receiver that you purchased. It is the receiver that collects data from the satellites and computes its location anywhere in the world based on information it gets from the satellites.

**General Packet Radio Service (GPRS)** - A new non-voice value added service that allows information to be sent and received across a mobile telephone network. It supplements today's Circuit Switched Data and Short Message Service. GPRS is NOT related to GPS (the Global Positioning System), a similar acronym that is often used in mobile contexts. It has maximum speeds of up to 171.2 kilobits per second (kbps) using all eight timeslots at the same time. By allowing information to be transmitted more quickly, immediately and efficiently across the mobile network, GPRS may well be a relatively less costly mobile data service compared to SMS and Circuit Switched Data. GPRS also facilitates instant connections whereby information can be sent or received immediately as the need arises, subject to radio coverage. No dial-up modem connection is necessary. This is why GPRS users are sometimes referred to be as being "always connected".[24]

**SVG** - SVG is a language for describing two-dimensional graphics and graphical applications in XML.[25] Using SVG, graphics can be coded directly into an XML document. SVG is a W3C recommendation.[26] Originally, SVG was created by the World Wide Web Consortium (W3C), the non-profit, industry-wide, open-standards consortium that created HTML and XML, among other important standards and vocabularies. Over twenty organizations, including Sun Microsystems, Adobe, Apple, IBM, and Kodak, have been involved in defining SVG. It is currently (as of July 21, 2000) in Working Draft status, but it is expected to move soon to Candidate

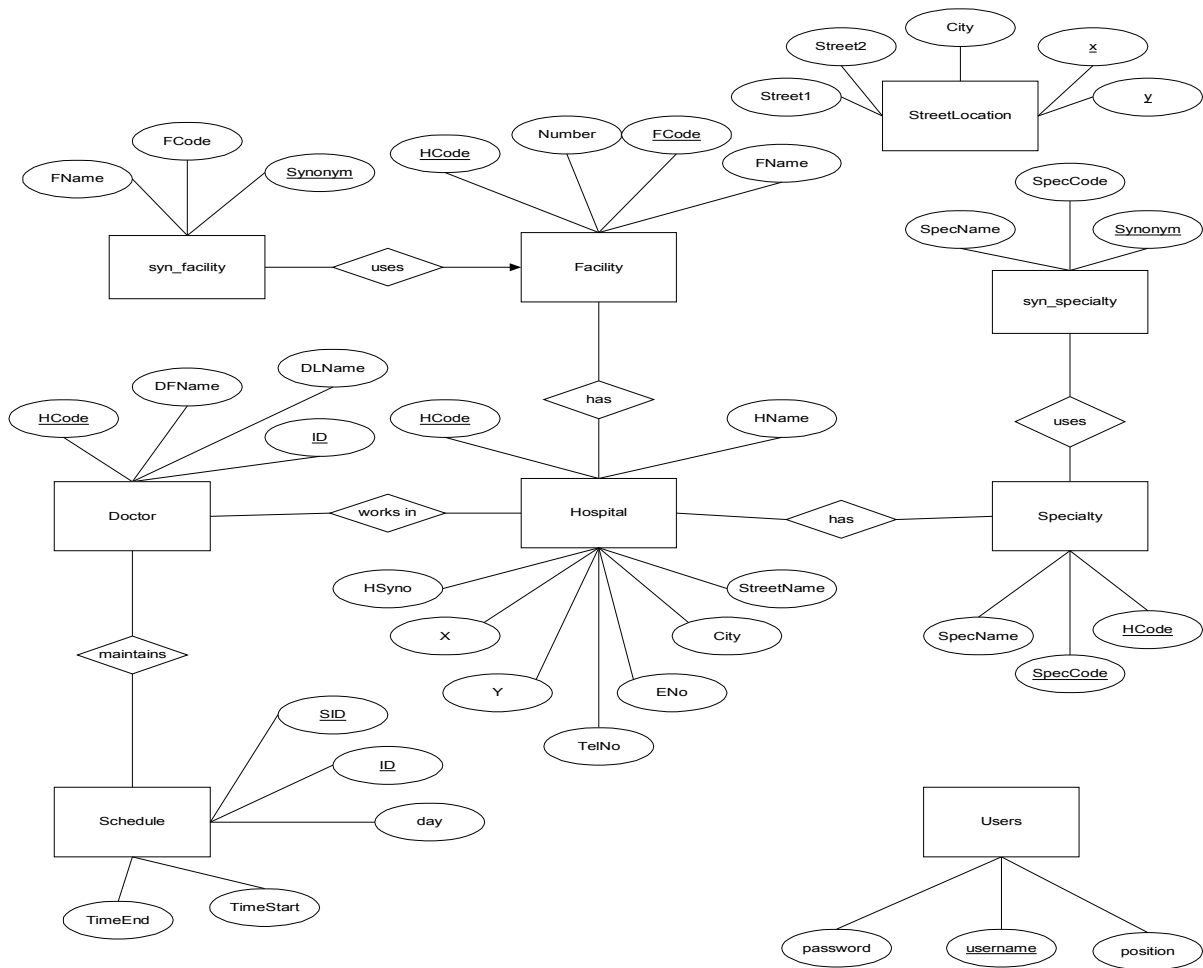


Recommendation and then to Proposed Recommendation before becoming a Final Recommendation.

## **IV. DESIGN AND IMPLEMENTATION**

### **A. Entity Relationship Diagram**

The extended entity relationship diagram seen in Figure 1 shows that the system will be composed of entities and association between (or among) entity types. Each entity in the ERD is equivalent to a relational table. The primary keys are underlined and are linked to other database tables. Here under are entities for Users, Hospital, Specialty, Facility, Doctor, StreetLocation, Schedule and Synonyms for Specialty and Facility. Each of them have their own attributes distinctive to the relationship between (or among) entity instances.



**Figure 1. Entity Relationship Diagram, Nearest Hospital Search and Inquiry System**

**B. Database Table**

The database design followed the relational database model. The database will consist of tables containing hospital information such as hospital, doctor, facility, specialty and its synonyms plus users and street location which are also included in the system. Here under are the list of tables and their respective data fields. Primary keys are underlined.

**HOSPITAL-** contains general information of the hospital using the system

Datafield	Data Type	Description
<u>HCode</u>	varchar(10)	Hospital Code

HName	varchar(50)	Complete name of the hospital
HSyno	varchar(30)	Synonym name of hospital
ENo	varchar(10)	Establishment or building number
StreetName	varchar(20)	Street name where the hospital is located
City	varchar(20)	City where the hospital is located
TelNo	Varchar(20)	Contact number of the hospital
X	int(5)	X-coordinate of the location
Y	int(5)	Y-coordinate of the location

**DOCTOR** – contains basic information about the doctor

Datafield	Data Type	Description
ID	varchar(10)	Doctor's ID (employee ID)
HCode	varchar(10)	Hospital code
DLName	varchar(20)	Last name of doctor
DFName	varchar(20)	First Name of the doctor

**SCHEDULE** – contains the schedule of the doctors

Datafield	Data Type	Description
SID	int(10)	Shedule ID
ID	varchar(10)	Doctor's ID
Day	enum('M','T','W','Th','F','S','Sun')	Day Schedule of doctor
Time Start	time	Start time of doctor's schedule
Time End	time	End time of doctor's schedule

**SPECIALTY** – contains the list of medical specialties for every hospital

Datafield	Data Type	Description
SpecCode	int(10)	Specialty code
HCode	varchar(10)	Hospital code
SpecName	varchar(20)	Complete name of the specialty

**STREETLOCATION** – contains the specific location of the mobile/online user

Datafield	Data Type	Description
Street1	varchar(20)	1 <sup>st</sup> Street name of user's location
Street2	varchar(20)	2 <sup>nd</sup> Street name of user's location (for intersection)
City	varchar(15)	City where the user is located
X	float	X-coordinate of the location
Y	float	Y-coordinate of the location

**FACILITY** – contains the list of facilities for every hospital

<b>Datafield</b>	<b>Data Type</b>	<b>Description</b>
FCode	Int(10)	Facility code
Hcode	varchar(10)	Hospital code
FName	varchar(20)	Name of facility
Number	Int(5)	Number of available facilities

**SYN\_FACILITY** – synonyms of facilities

<b>Datafield</b>	<b>Data Type</b>	<b>Description</b>
FCode	int(10)	Facility code
FName	varchar(20)	Name of facility
Synonym	varchar(20)	Synonym of facility

**SYN\_SPECIALTY** – synonyms of specialties

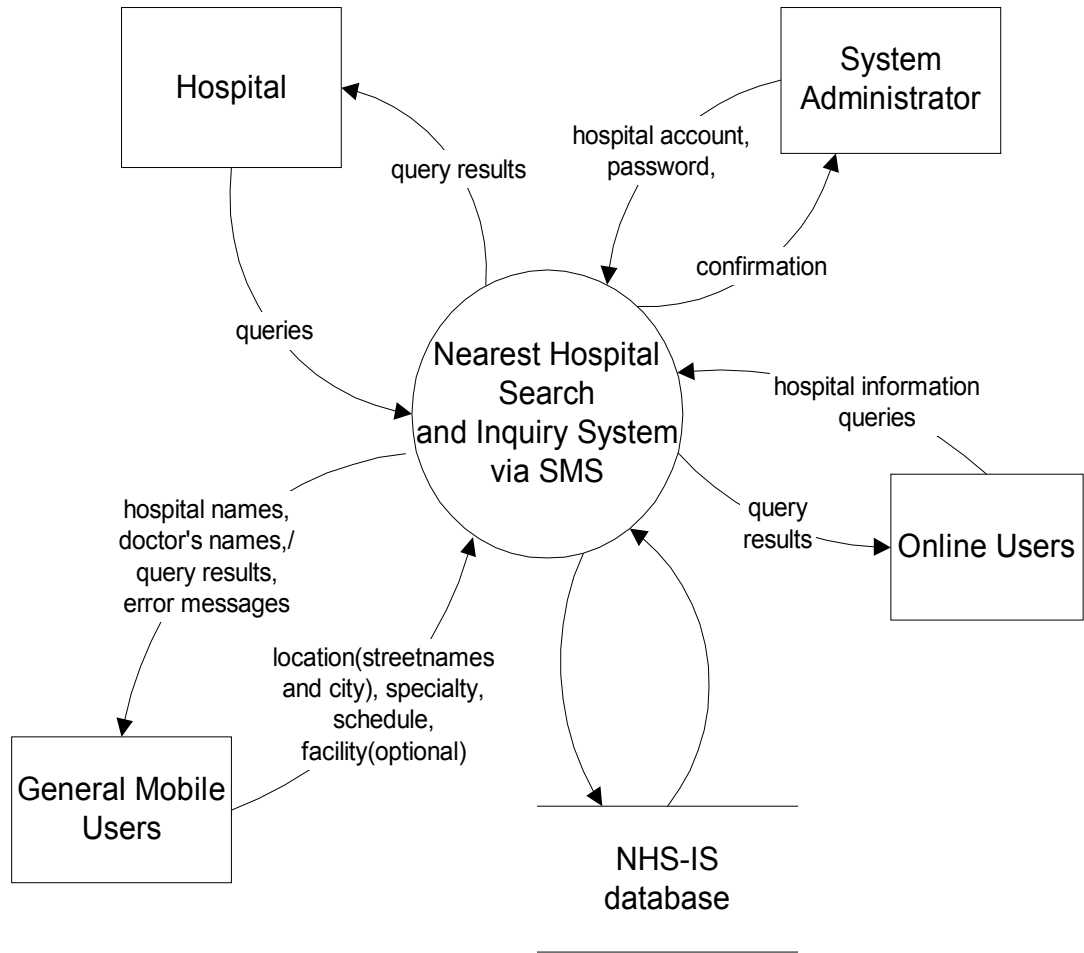
<b>Datafield</b>	<b>Data Type</b>	<b>Description</b>
SpecCode	varchar(15)	Specialty code
SpecName	varchar(20)	Name of specialty
Synonym	varchar(20)	Synonym of specialty

**USERS** - the users of the system

<b>Datafield</b>	<b>Data Type</b>	<b>Description</b>
username	varchar(15)	Username to login
password	varchar(10)	Password of the registered user
position	varchar(20)	Position of the user

### **C. Context Diagram**

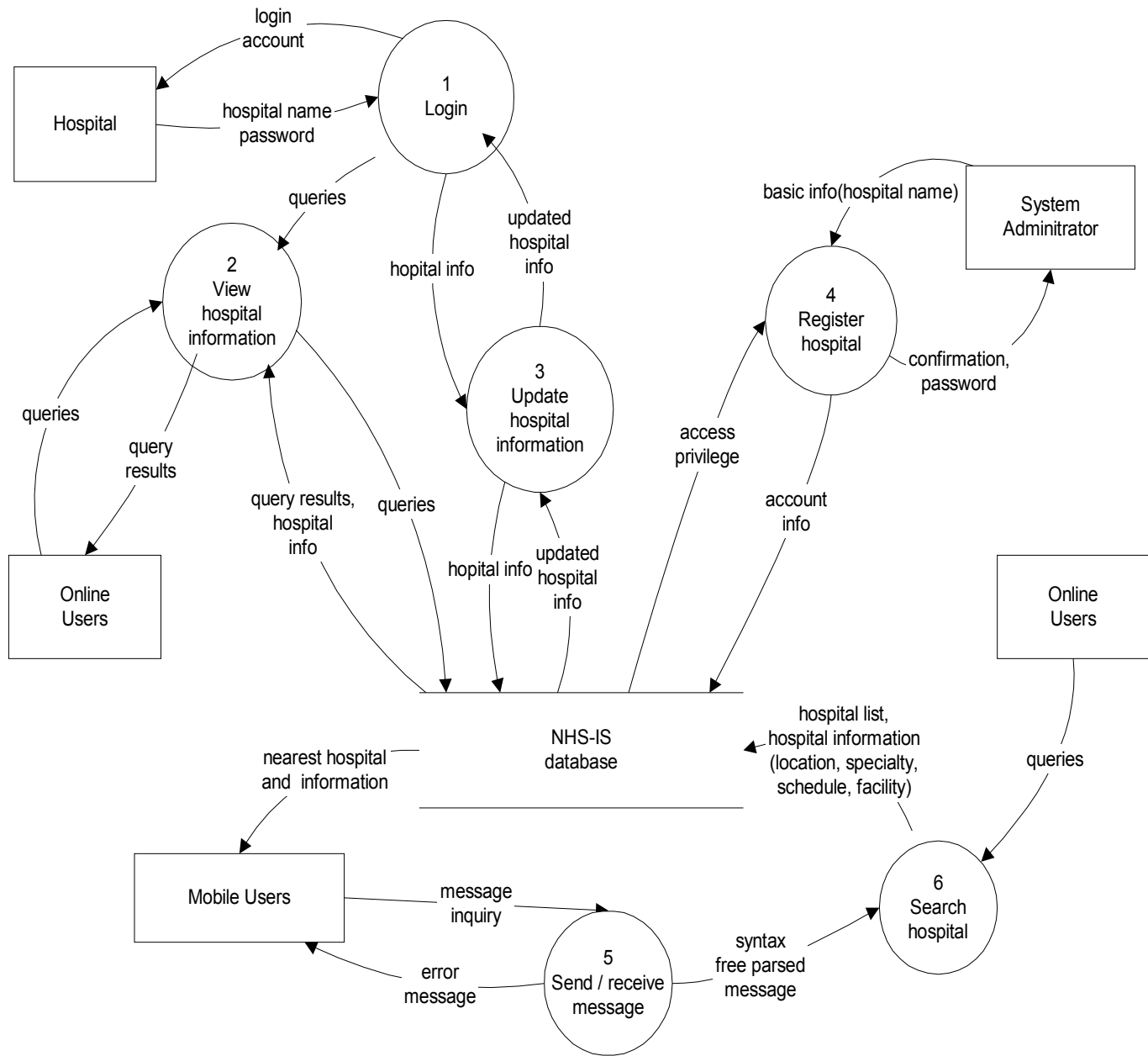
The context diagram is shown in Figure 2. The main entries are the system administrator, hospital, online users and the general mobile users. The system administrator is the one who generally maintains the system, assigns coordinates for given locations based on the look-up table and map and then registers hospitals. The hospital can only log-in once the system administrator has given him the account and password. With its privileges in the system, the hospital can add, edit and delete hospital information, as well as change their passwords. Online users can view general information about the registered hospitals. They can also query necessary information using the search module of the system.



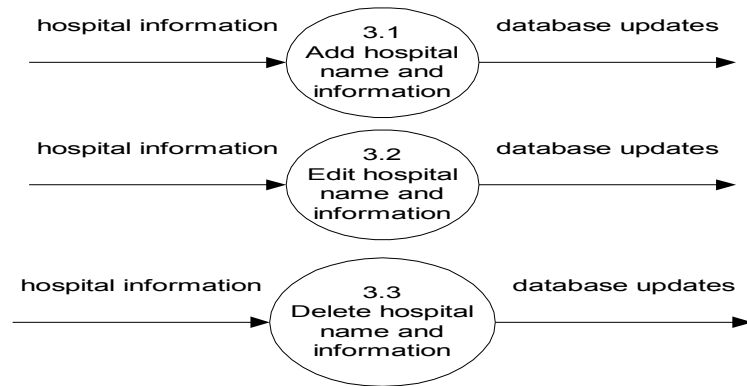
**Figure 2. Context Diagram, Nearest Hospital Search and Inquiry System**

#### **D. Data Flow Diagram**

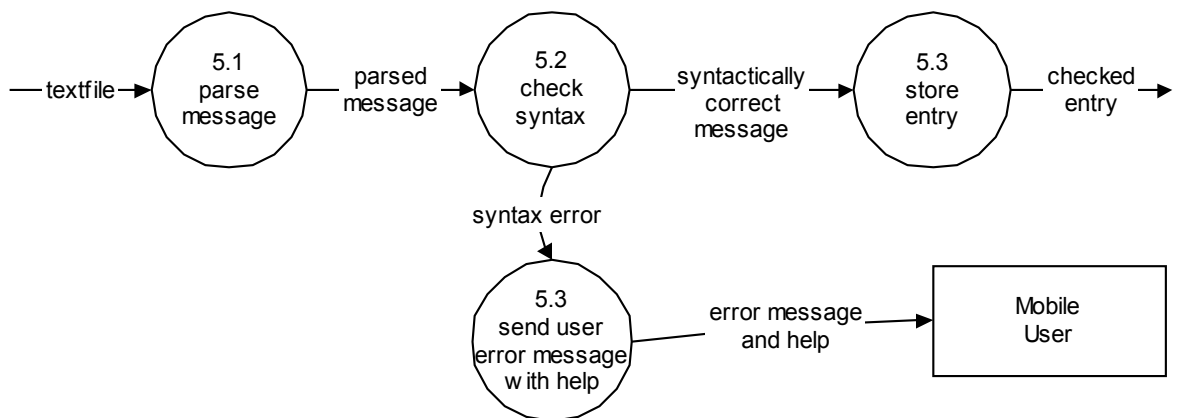
The top level data flow diagram of the system is shown in Figure 3. It shows the main processes of the system. These are (1) Login, (2) View and (3) Search hospital. The sub-explosion of the different processes are seen in Figures 4-8.



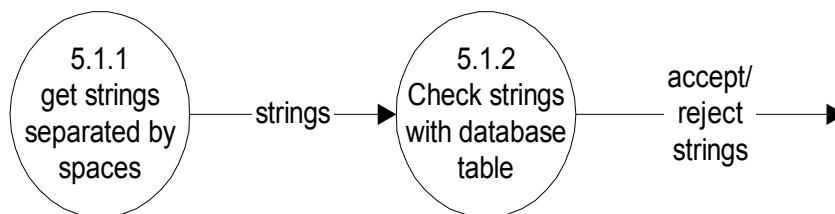
**Figure 3. Top Level Data Flow Diagram, Nearest Hospital Search and Inquiry System**



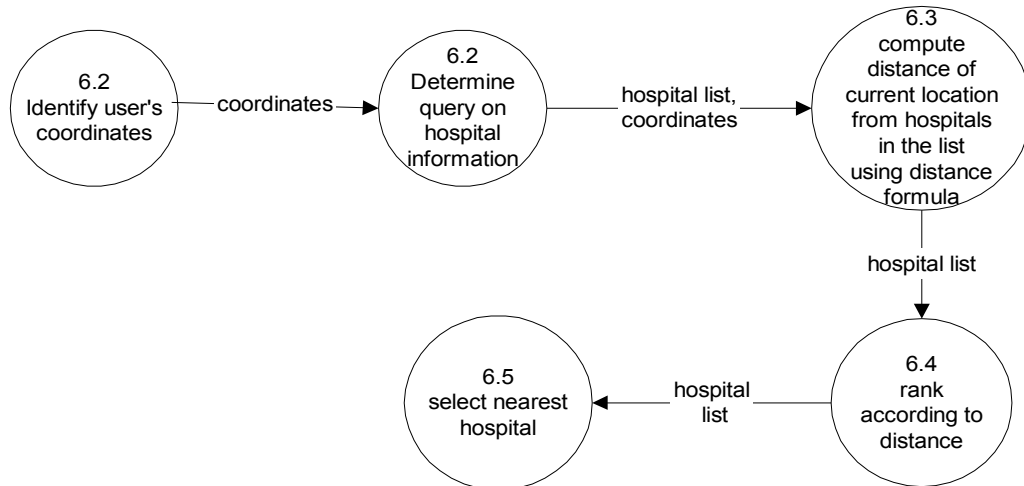
**Figure 4. Sub-explosion of Process 3 (Update hospital information),  
Nearest Hospital Search and Inquiry System**



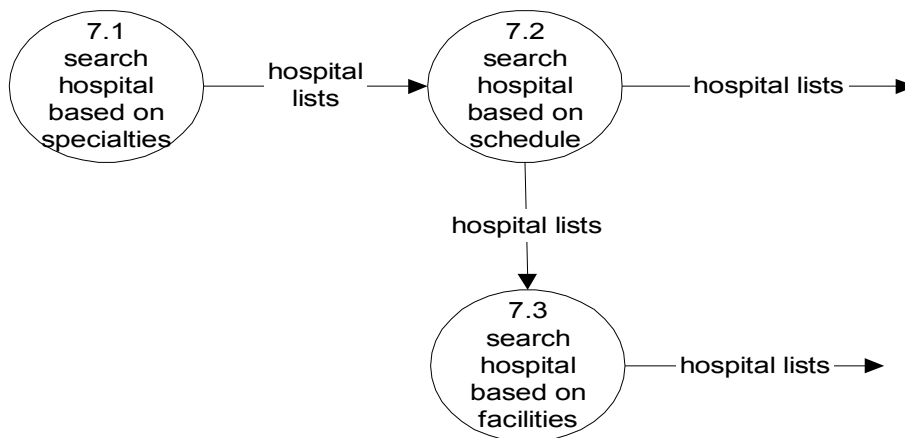
**Figure 5. Sub-explosion of Process 5 (Send/ receive message),  
Nearest Hospital Search and Inquiry System**



**Figure 6. Sub-explosion of Process 5.1 (Parse Message)  
Nearest Hospital Search and Inquiry System**



**Figure 7: Sub-explosion of Process 6 (Search Hospital),  
Nearest Hospital Search and Inquiry System**



**Figure 8: Sub-explosion of Process 7 (Determine query on hospital information)  
Nearest Hospital Search and Inquiry System**

Users can query through online system or via SMS. An online user may be able search for hospital information upon accessing the URL depending on the categories he specified. Mobile users, on the other hand, must follow the format of the query.



## E. Querying via SMS

Users may be able to query information via SMS by specifying the following: identifier HOSP, Streets 1 and 2, specialty, doctor's schedule and facility being looked for.

The format of the query is:

{HOSP} (asterisk) {Street1} (asterisk) {Street2} (asterisk) {City} (asterisk)  
{SpecName}( asterisk) {Day} (asterisk) {Time} (asterisk) {AM/PM} (asterisk) [FName]

Using "asterisk" as the delimiter, example query in a text file is:

HOSP\*Taft\*Faura\*Manila\*Pedia\*T\*05:30\*am\*x-ray

In the case of parsing, the strings must be separated by asterisk. If the parser detected that the data is in wrong format, an error message will be sent to the mobile user along with the correct syntax. This enables the mobile user to edit his text message according to the proper syntax notation guide.

For example,

1. Invalid keyword. Correct inquiry format: Ex. HOSP\*Taft Avenue\*Padre

Faura\*Manila\*Pedia\*T\*05:30\*pm\*x-ray

2. Invalid time format. Correct inquiry format: Ex. HOSP\*Taft Avenue\*Padre

Faura\*Manila\*Pedia\*T\*05:30\*pm\*x-ray

A parser needs a grammar in order to process the query. Here under is a sample grammar for the for the txt format:

```
<Query>      :: =  `HOSP' <Field-List>
<Field-List>  :: =  <Street1> <asterisk> <cor> <asterisk> <Street2> <asterisk>
                <City><asterisk> <SpecName> <asterisk> <Day> <asterisk>
                <Time> <asterisk> [<FName>]
```

```

<Street1>    ::= <term> {<space> <term>}
<Street2>    ::= <term> {<space> <term>}
<City>       ::= <term> {<space> <term>}
<SpecName>   ::= <name>|<synonym>
<Day>        ::= `M'|`T'|`W'|`Th'|`F'|`S'|`Sun'
<Time>       ::= <hour> `:' <minute> ("AM"|"PM")
<hour>       ::= ((08|09|10|11)"AM") | ((12|01|02|03|04|05|06|07|08)"PM")
<minute>     ::= 00|01|02|...|59
<FName>      ::= <fterm> {<space> <fterm>}
<term>       ::= A|B|C|...|Z|a|b|c|...|z { A|B|C|...|Z|a|b|c|...|z}
<fterm>      ::= A|B|C|...|Z|a|b|c|...|z|'-'|`

```

HOSP is the required keyword. <Field-List> is comprised of the set of fields needed in the syntax. <FName> here stands for Facility name which is optional in the syntax. The symbol “[ ]” denotes optional occurrence for facility. Schedules denotes the day and time (am/pm) we wish the doctor to be available. It is written in a <hh:mm> format. *Name* and *synonym* are terminals.

From the example above, the mobile user / patient is searching for the nearest hospital along Taft corner Faura Manila that offers Pediatrics. Upon browsing the look-up table, Pedia is defined to be a synonym for Pediatrics. The specialty needed is first checked, then the system filters out the hospital lists depending on the desired schedule and facility of the user. The hospital lists are outputted with the address and the phone number.

## F. Querying Online

Online querying requires an Internet connection and a browser. The queries made through SMS will also be implemented in the online query by clicking on the search or view hospital list and information links. Basically, the user may be able to use the search module in

order to search either by nearest location or by category. Search by Location aims to compute and get the closest hospital from a certain location in the map. Search by Category, on the other hand, aims to provide a hospital out of the categories made, either its availability of a particular facility, specialty, or doctor's schedule.

### **Finding the most suitable hospital**

In finding the most suitable hospital for a particular patient, the following factors are used:

- a. medical specialty needed
- b. hospital distance
- c. desired schedule of the patient
- d. medical facility needed

Once the correct syntax has been sent, the system searches the name of hospitals with the needed specifications in the database. The result of this search is then ranked according how they are near to the given location specified by the mobile user. The result is sent back to the user via SMS. In cases of error in message format, correct syntax are sent back to them.

Coordinates of the hospitals and street locations generated by the system administration from the map are used to determine the distances of locations from the hospitals. The distances are computed using the distance formula where the assigned coordinates of each point will be used as the parameters. With the image map of the system administrator, we could automatically assign the coordinates of each location.

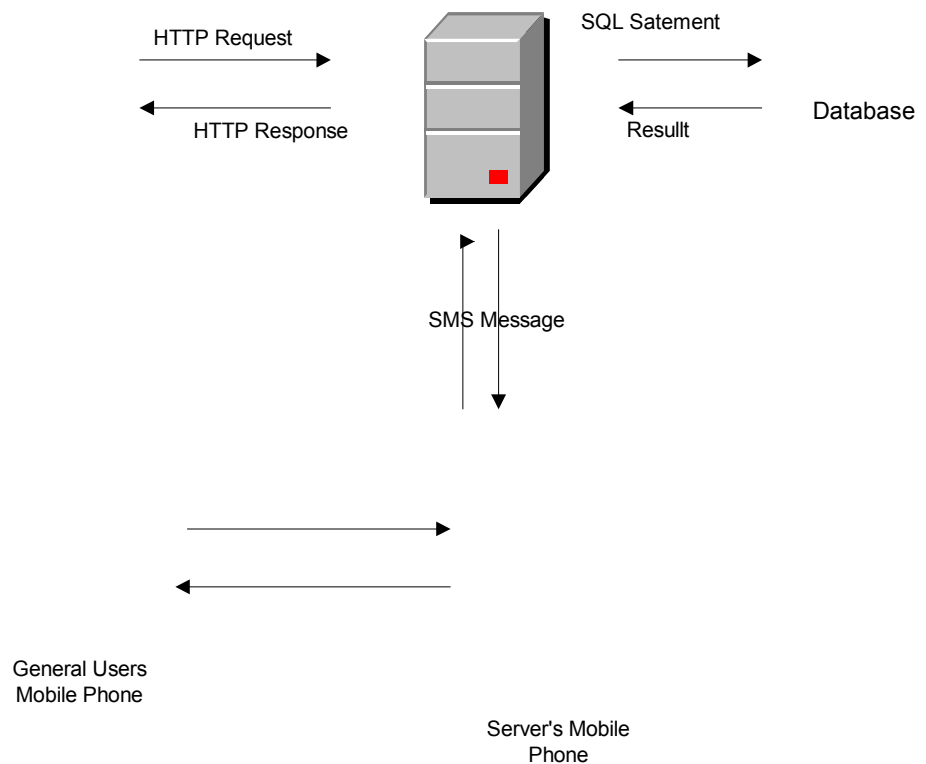
The latitudinal and longitudinal coordinates of desired location is being compared with the generated coordinates of the nearby hospitals in the area, and using directed distance algorithm, the nearest hospital can be searched upon.

## G. Technical Architecture

The system would follow the Client/Server (C/S) computer architecture. For a client to send requests, he must have a computer with Internet connection and a Javascript capable browser. The server machine manages the request and gives back the request results to the client coming from the database. (See Figure 9)

A PC- to – cell phone connection will be needed by the system to process the sending of messages and sending back its reply. A data cable will be used to connect the Mobile phone and the Comm2 port of the computer.

Here in Figure 6 is a technical architecture of the said system.



**Figure 9. Technical Architecture of Nearest Hospital Search and Inquiry System**

Hospitals are to be registered in the system before they can connect to the server. Registration is done by the system administrator by adding the hospital in the system. A hospital must have a personal notification and confirmation with the system administrator in case he wants to be registered. This can be done through email. This logging in procedure is done by the hospital under the permission coming from the system administrator. Hospitals are given unique accounts and password for log-in purposes.

Gnokii Version 0.3.3 supports selected Nokia models compatible with the system. Either a Nokia 6210, 7110 or 5110 cell phone will be used matched with the data cable.

This server machine should be Pentium-class clone with the following specifications:

- A. at least 500 Mhz
- B. at least 128 Mb RAM
- C. at least 500 Mb disk space

The system will run under the following operating systems:

- A. Windows ME
- C. Windows 98 SE
- D. Windows 2000
- E. Windows XP

The server will be using the following applications to run the system.

- F. PHP (At least 4.1.1)
- G. MySQL (At least 3.8.48)
- H. Apache Server (At least 1.3.23)
- I. Gnokii (.0.3.3)

## V. RESULTS

The main page of the Nearest Hospital Search and Inquiry System is seen in Figure 10. The functionalities provided by the online system are accessible depending on the category of users. Users can be the system administrator, hospital or hospital clerk and the general users. For hospital clerks, an interface for log-in is presented, requiring them to input the Hospital code and the password. Hospital codes are auto-generated by the system. The Hospitals would ask permission from the System Administrator via Personal communication or via electronic mail. The system administrator will be the one to initially set the password of every hospital account which the hospital may change once he is successfully registered. The hospital shall key in the proper information (Username and password) in order to get into the system and access the database.



Figure 10: Main Interface, Nearest Hospital Search and Inquiry System

Once registered by the system administrator, the hospital will then be able to login and updates his own information and profile as shown in Figure 11.

# NEAREST HOSPITAL SEARCH AND INQUIRY SYSTEM

Manila Doctors Hospital

[Search](#) | [About NHSIS](#) | [Log out](#)

## Links

- [Hospital Profile](#)
- [List of Facilities](#)
- [List of Specialties](#)
- [List of Doctor](#)
- [List of Schedules](#)

## Hospital Profile

Hospital Code:	2
Hospital Name:	<b>Manila Doctors Hospital</b>
Hospital Synonym:	<b>Madocs</b>
Establishment No.:	<b>19B</b>
Street Name:	<b>U.N Ave.</b>
City:	<b>Manila</b>
Telephone No.:	<b>524-3010</b>

[Edit Hospital Info](#)

[Change Hospital Password](#)

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**Figure 11: Hospital Profile page, Nearest Hospital Search and Inquiry System**

With the sample screen seen in Figure 11, the left side shows the links in order for the hospital to access necessary information such as the hospital profile itself, lists of hospitals, specialties, doctors and their schedules, and facilities if desired. For example, for available specialties and facilities, hospital can do any of its functions:

1. add and update hospital information
  - a. add and update specialty or facility
    - add specialty or facility
    - edit specialty or facility
    - delete specialty or facility
  - b. add and update schedules of doctors
  - c. add and update synonyms of facilities and specialties

Interfaces for add, edit and delete facilities are almost patterned from add, edit and delete of specialties. The same thing goes with their interfaces for corresponding synonyms. Here under are sample screenshots for the specialty module. For example, in adding a specialty, hospital may add a new specialty by filling up the textbox or he may add a specialty registered from existing hospitals.

The hospital may specify their offered specialties or choose among the specializations already listed. Upon clicking the Add Specialty link, an interface with check boxes will be shown in order for the hospital to simply check among the registered specialties. (see Figure 12) Additionally, adding specialty list and edit specialty can also be seen on Figures 13-14.

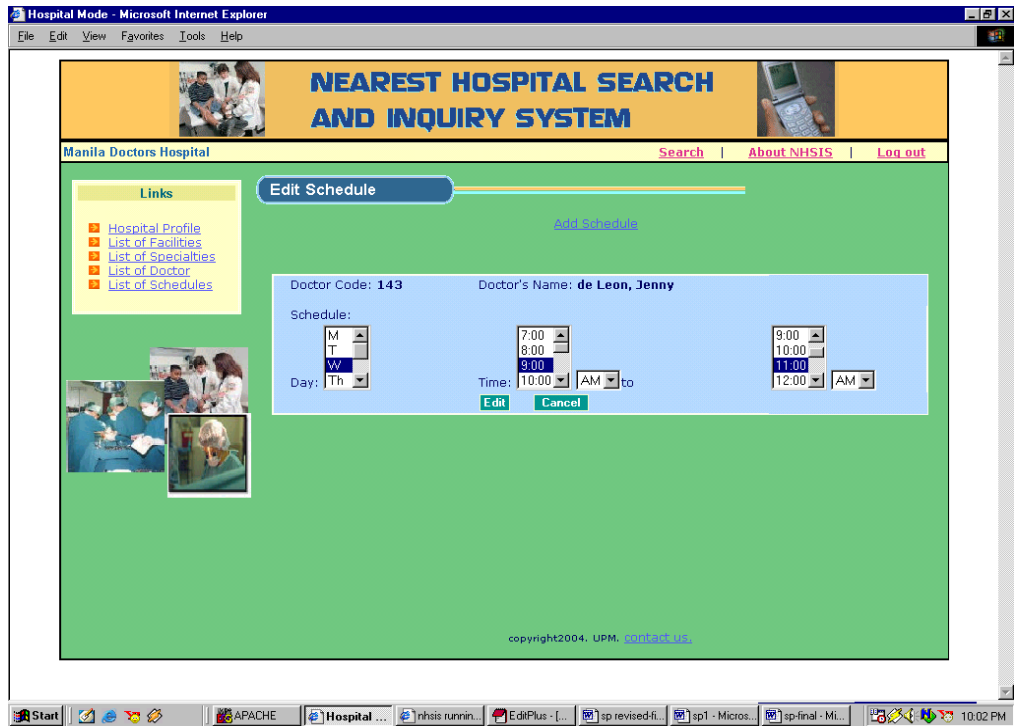


**Figure 12: Add a New Specialty page, Nearest Hospital Search and Inquiry System**



**Figure 22: Add Schedule, Nearest Hospital Search and Inquiry System**

The interface for list of doctors' schedules have links in order to edit and delete given schedules. It is expected that a certain doctor may have more schedules in various days of the week. Clicking the edit schedule link will direct to an interface where the list of current day, time start and time end of a particular doctor's schedule are highlighted or selected. (see Figure 23)



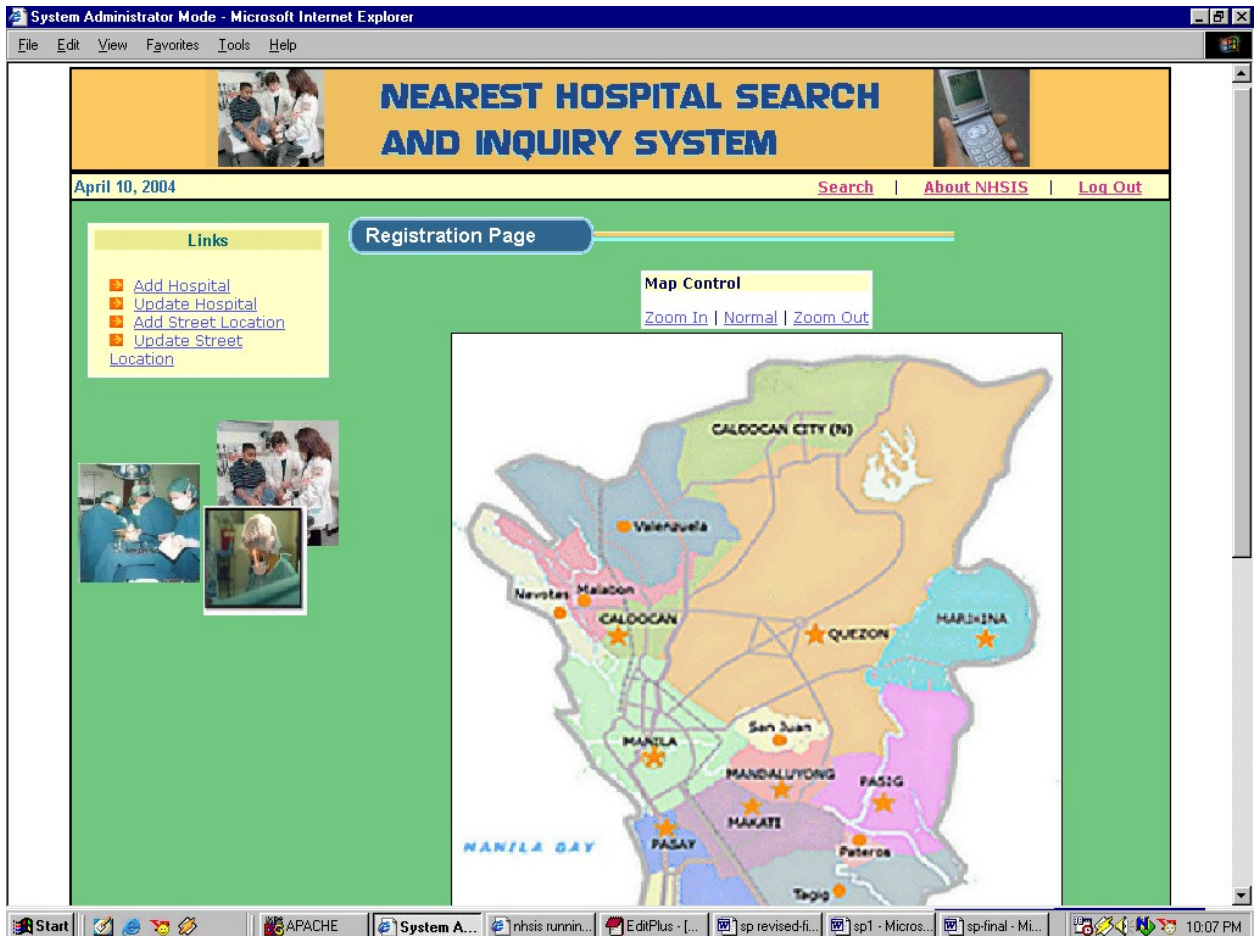
**Figure 23: Edit Schedule, Nearest Hospital Search and Inquiry System**

Moreover, the hospital is also capable to alter his password at the hospital profile page.



**Figure 24: Change Password for Hospital, Nearest Hospital Search and Inquiry System**

Once the system administrator has logged in, he is responsible to do the following functions: add, edit, delete and view hospitals. He registers a certain hospital using the image map of Manila, as sample of the whole Metro Manila vicinity. Once part of the map is clicked, coordinates of that particular location is generated. The dialog box must be filled up correctly along with the required fields in order to add a new hospital. (see Figure 25)



**Figure 25: Register new Hospital, Nearest Hospital Search and Inquiry System (System Admin)**

More than the use of the image map to add hospital, it is also used to edit hospitals by updating its coordinates as shown in Figure 26. The current location of the hospital is loaded using the red marker. Current coordinates if the given hospital is shown in a textbox. In order to

update the coordinates, the hospital may click from the map. To delete a particular hospital is easier because it simply asks for Hospital code in a textbox and automatically deletes the account and both under the hospital and users table.

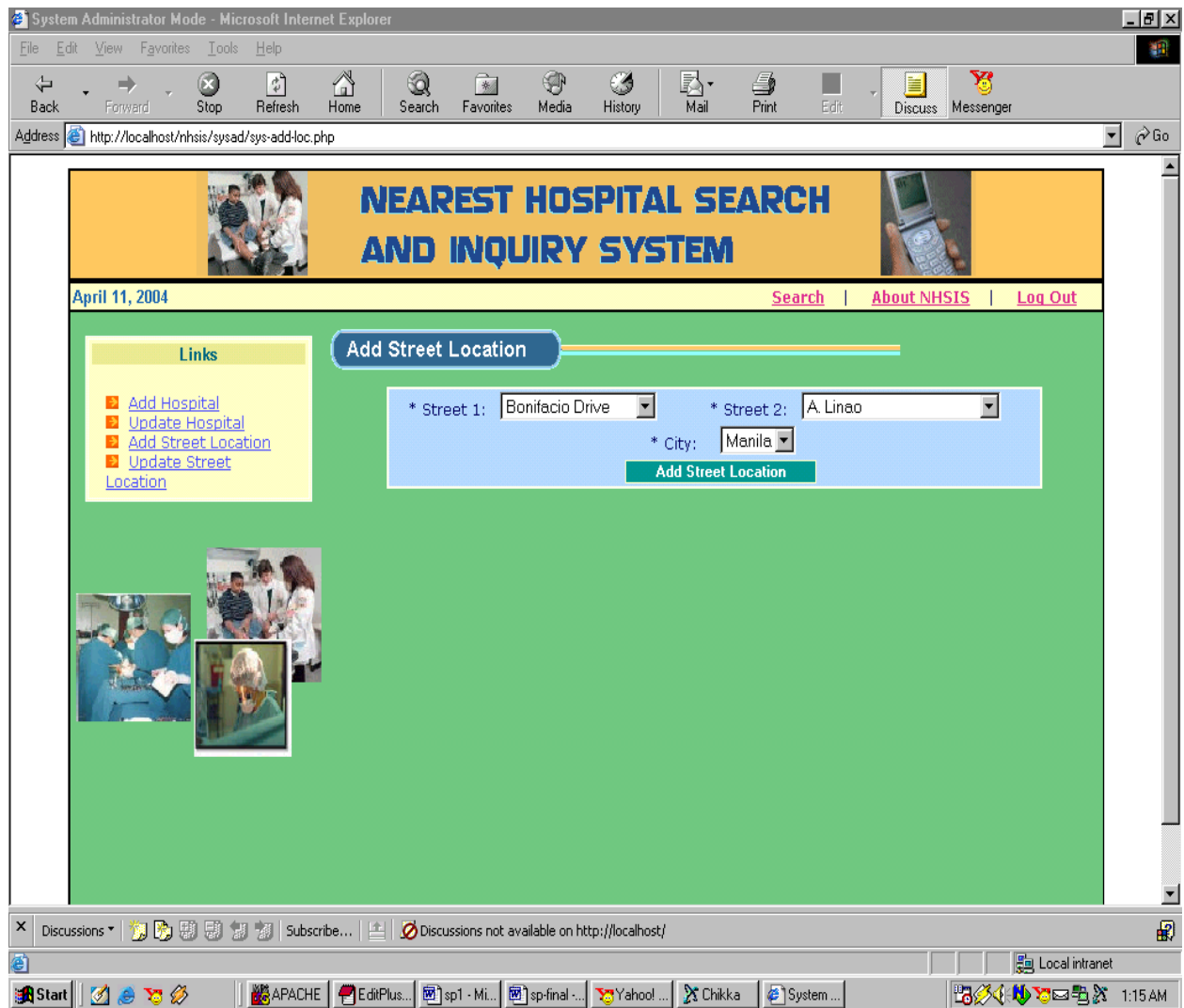


**Figure 26: Edit Hospital, Nearest Hospital Search and Inquiry System (System Admin)**

The system administrator also makes use of the image map in order to add and update street locations. Upon clicking the link to add street location, 2 list boxes are shown corresponding to the already registered streets in the database. If the desired Streets are not found at the list boxes, clicking on the "Other" will output a textbox where we enter the street. Upon submitting, it may fall under 3 cases. *Case 1:* If Street 1 and Street 2 from the list boxes are already found in the table, it will prompt an error message that coordinates are already

generated for the pair of streets. *Case 2:* If Street 1 and Street 2 from the list boxes are not found in the table, we add the new street location by clicking on the map to generate its coordinates. *Case 3:* If Street 1 or Street 2 are not in the list box, and street corner is not yet in the table, we add the names of the streets (either Street 1 or Street 2 or possibly both) at the textbox, and click on the map.

Other interfaces included under the System Administrator module are the following: Delete Hospital, Add Street Location, Edit Street Location and Delete Street Location. (see Figures 27-28 )



**Figure 27: Add Street Location, Nearest Hospital Search and Inquiry System**



**Figure 28: Update Street Location, Nearest Hospital and Inquiry System**

Upon clicking the link to add or update street location, 2 list boxes are shown corresponding to the already registered streets in the database. Suppose Taft Ave. is already in the list box under Street 1 and Quirino Ave is under Street 2. If the two streets are selected and were attempted to be submitted, it will output an error message implying that coordinates has already existed. Moreover, Add Street Location also considers the case that Street 1 may be interchangeable with Street 2. Therefore, along with the checking if given Street 1 and Street 2 already exist, if not found, it must also check for its inverse -- Street 2 and Street 1 respectively.



Figures 29-30 are sample interfaces outputting results which shows that Street1 may be interchangeable to Street 2.

The screenshot shows a web browser window with the title "NEAREST HOSPITAL SEARCH AND INQUIRY SYSTEM". The page header includes the date "April 11, 2004" and navigation links for "Search", "About NHSIS", and "Log Out". A "Links" sidebar on the left contains: "Add Hospital", "Update Hospital", "Add Street Location", and "Update Street Location". The main content area features a "Update Street Location" button and the text "Taft Ave./Quirino Ave.". Below this is a table with the following data:

Street1	Street2	X-Coor	Y-Coor	City	Edit Location	Delete Location
Taft Ave.	Quirino Ave.	1151	4592	Manila	<a href="#">Edit Location</a>	<a href="#">Delete Location</a>

At the bottom of the page, there is a copyright notice: "copyright2004. UPM. [contact us.](#)"

**Figure 29: Result of Update Street Location 1, Nearest Hospital Search and Inquiry System**

**NEAREST HOSPITAL SEARCH AND INQUIRY SYSTEM**

April 11, 2004 [Search](#) | [About NHSIS](#) | [Log Out](#)

**Links**

- [Add Hospital](#)
- [Update Hospital](#)
- [Add Street Location](#)
- [Update Street Location](#)

**Update Street Location**

Quirino Ave./Taft Ave.

Street1	Street2	X-Coor	Y-Coor	City	Edit Location	Delete Location
Quirino Ave.	Taft Ave.	1151	4592	Manila	<a href="#">Edit Location</a>	<a href="#">Delete Location</a>

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**Figure 30: Result of Update Street Location 2, Nearest Hospital Search and Inquiry System**

Online users can generally view the hospital lists in the database. Online users no longer need to log-in in the system. They can view general information such as hospital profile, its facilities, specialties, doctors and schedules upon clicking the link for a particular hospital name. (see Figures 31 - 32)



**Figure 31: View Hospital Lists, Nearest Hospital Search and Inquiry System (for online users)**



**Figure 32: View Hospital Information, Nearest Hospital Search and Inquiry System (for online users)**

Online users can also search for necessary hospital information however, they cannot access database of the system. Search may either be by category or location. Search by Location aims to compute and get the closest hospital from a certain location in the map. Online users are guided by instructions to locate their location on the set of image maps. Upon clicking on a particular area on the map, it outputs the closest hospital to your current location along with that hospital's information. Search by Category, on the other hand, aims to provide a hospital out of the categories made, either its availability of a particular facility, specialty, or doctor's schedule. The user specifies from the list boxes the collection of categories to be considered for the search. Ex. search for hospital with Facility

Radiology, Specialty Ventilator, Day Wednesday and Time Start 10 AM. (see Figures 33  
-34)

Nearest Hospital Search - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Discuss Messenger

# NEAREST HOSPITAL SEARCH AND INQUIRY SYSTEM

April 10, 2004 [Home](#) | [View Hospital Lists](#) | [Search](#) | [About NHSIS](#)

## Hospital Search

[Search by Location](#)

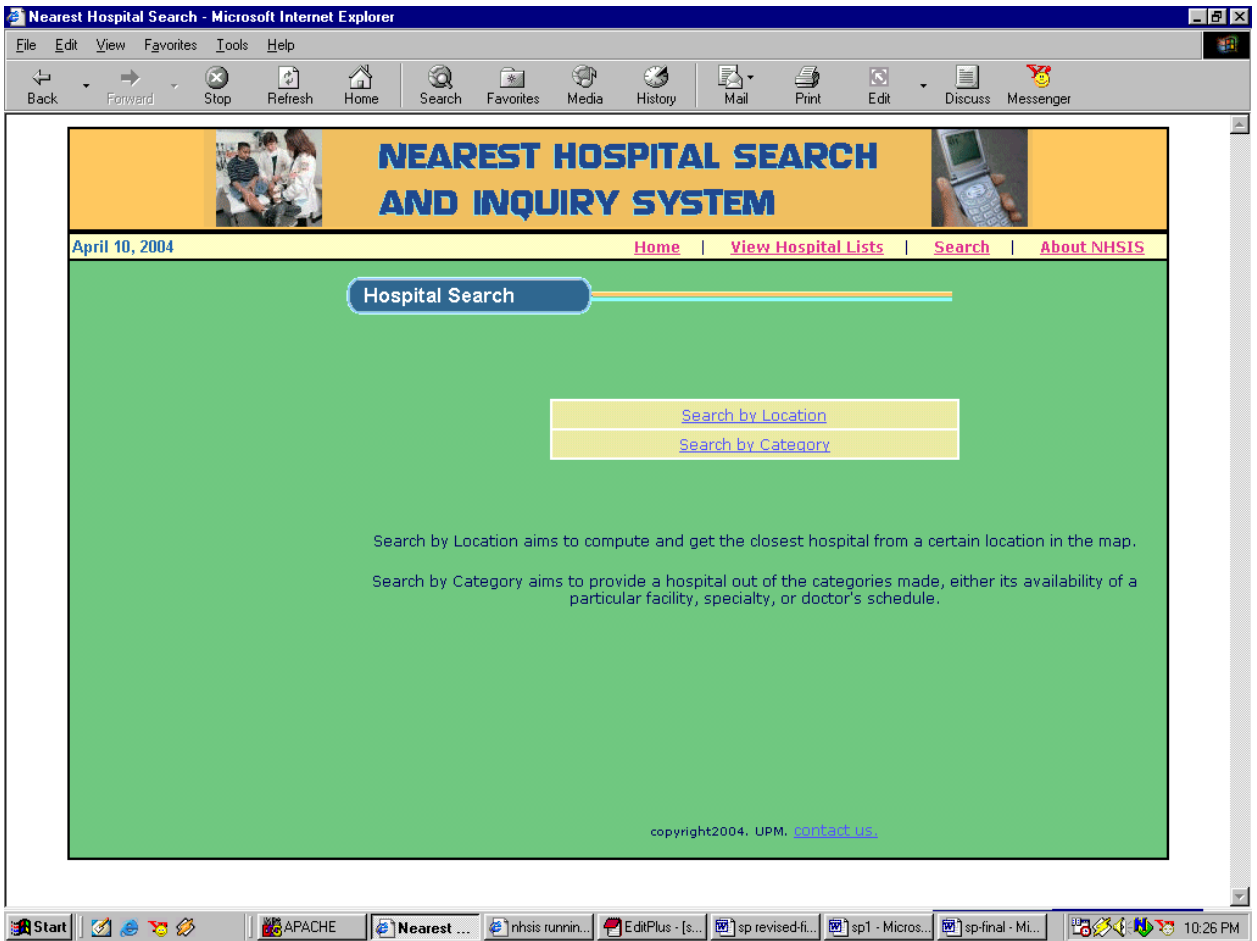
[Search by Category](#)

Search by Location aims to compute and get the closest hospital from a certain location in the map.

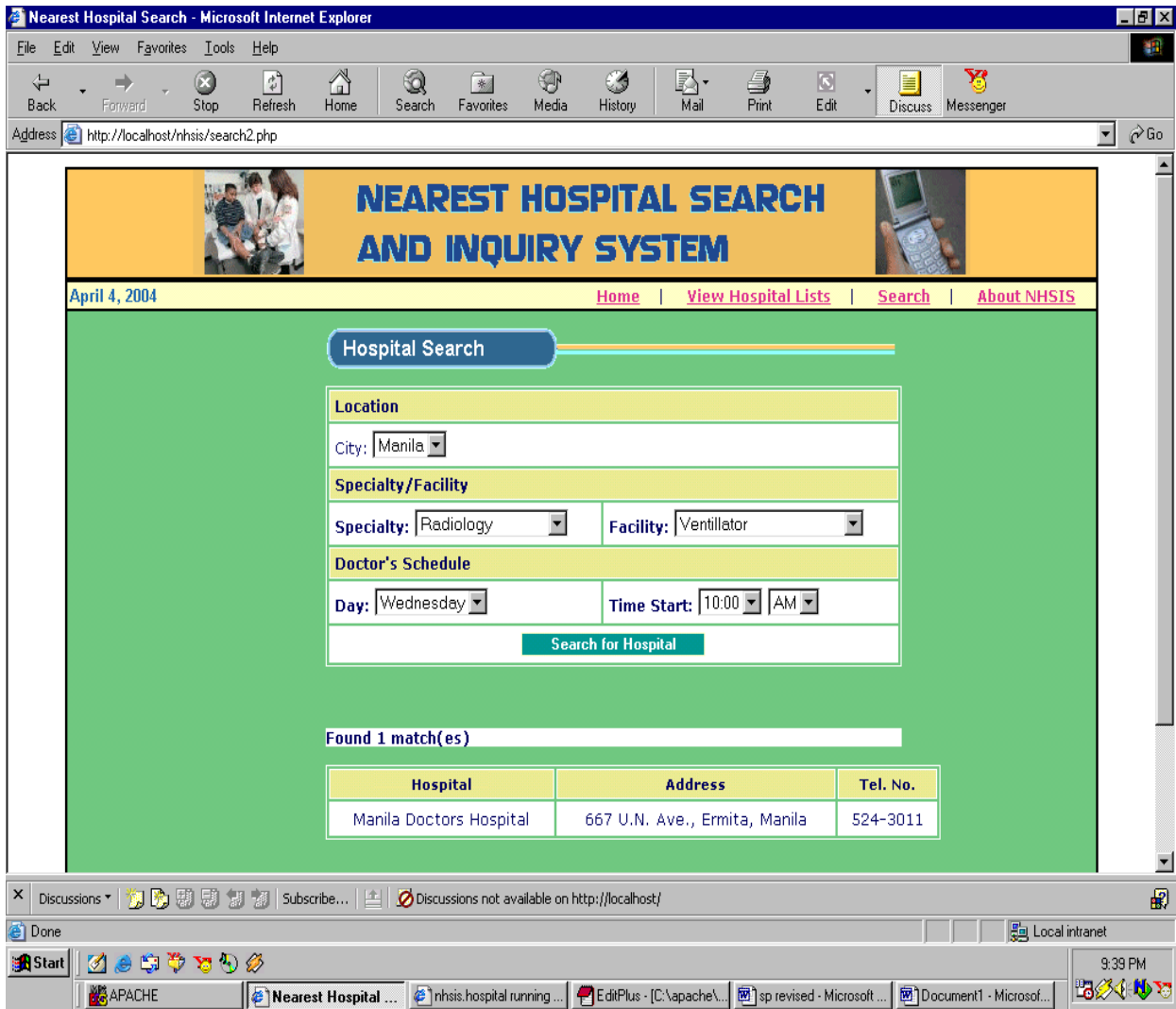
Search by Category aims to provide a hospital out of the categories made, either its availability of a particular facility, specialty, or doctor's schedule.

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Start | APACHE | Nearest ... | nhsis runnin... | EditPlus - [s... | sp revised-fi... | sp1 - Micros... | spfinal - Mi... | 10:26 PM



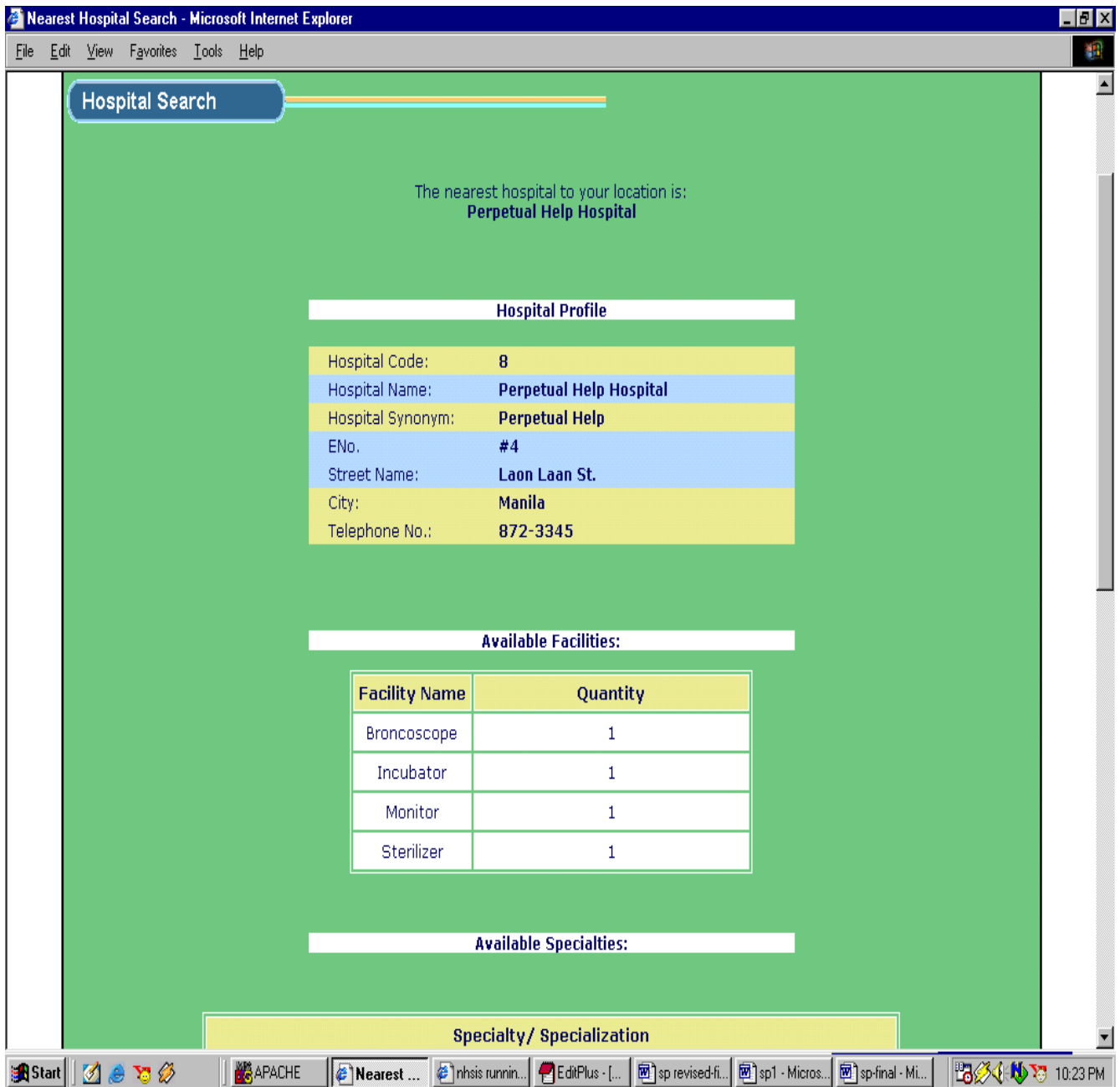
**Figure 33: General Search Page, Nearest Hospital Search and Inquiry System**



**Figure 34: Search page according to category, Nearest Hospital Search and Inquiry System**

Search by Location aims to compute and get the closest hospital from a certain location in the map as illustrated in Figure 35. In order for the user to specify their current location, instructions are given while clicking on the series of maps. Once the location of the user has been found, it outputs the nearest hospital from his area along with its information.





**Figure 35: Search page according to location, Nearest Hospital Search and Inquiry System**

The mobile users may be able to text in their queries and replies are provided by the system depending on the inquiry made. These reports are saved in text files, which are parsed to verify the validity of the inquiry. If the query is found in the database, the corresponding

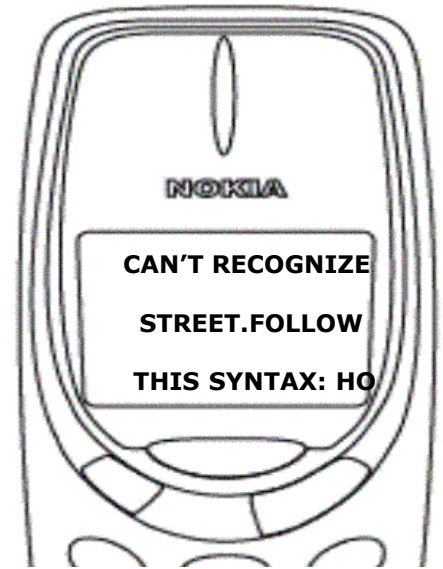
hospital needed is sent to the user; otherwise, invalid message and correct syntax error are sent back to them. (see Figures 36 - 38)



**Figure 36 - Sample Text Query of Mobile User**



**Figure 37- Sample result query from the system**



**Figure 38 - Sample Text throwing the correct syntax**

## **VI. DISCUSSION**

Nearest Hospital Search and Inquiry System is an accessible application because it allows users to query online. Using this system, clinical data provided by registered hospitals are open for public viewing so in any case, users can readily search for hospitals they need. Moreover, hospital profiles are shown to post basic information about them such as their telephone numbers and addresses. Using the search module, users may obtain the hospital they want in line with the available facilities, specialties and doctor schedules they wish to specify. They can easily acquire desired information and choose hospitals whose location, type of services and doctor's schedules answer their needs. With the use of search by location, users can immediately click through the series of maps along with instructions given, and he can abruptly figure out which closest hospital can render service they want in the shortest time possible. It is useful to the general public because basic instructions incorporated in the system can be simply followed. On the other hand, searching categorically is very advantageous because users no longer worry if a particular hospital can give out services depending on the specialization, facility and schedules they want.

Since mobile technology is very useful nowadays, this system also incorporates the use of SMS or Short Messaging Service, where in anyone can issue their queries using plain text. Although there is a charge per text, it is still practical because you may readily send certain message anytime and anywhere. Users can also consider their desired schedules because by merely texting the system and getting a reply from it, they can adapt to doctor's schedules. Hence, if the mobile user made mistake with their query format, the system will reply an error message along with the correct syntax.

With the application of SMS, the system may determine the nearest hospital based from the user's location which he has submitted. Using instant messaging is less hassle because they no longer go directly to hospitals to find out their available facilities and services.

However, in spite of its usage, this system has drawbacks as well. It generates limited clinical information based only on the data given by the registered hospitals. Range of locality is within Metro Manila which only include major streets, avenues and highways. Minor streets and alleys are no longer covered in the map. Moreover, the street names to be identified by the system are the common names of the streets found in the look up table. Using SMS technology, users must be aware that text messaging would be costly especially if more error messages are sent back to them. In some area, mobile signals are not so promising.

The applicability of this system to hospitals and to the general users must encourage more testing in order for them to compensate its benefits.

## **VII. CONCLUSION**

Generally, Nearest Hospital Search and Inquiry System employs SMS technology in determining nearest hospital to the location provided by the user. It allows mobile and online users to issue their queries on the hospital depending on the doctors' availability for a specified specialization and his schedule of services. The system enables online users to view hospital names and information. It allow hospitals and clinics to add, edit and delete hospital information. The system administrator is capable to register hospitals and assigns hospital account and password to them. Lastly, Nearest Hospital Search and Inquiry System provide mobile users with correct syntax in case of errors in message format.

## **VIII. RECOMMENDATION**

The system incorporates Gnokii, which is an open source software in sending and receiving messages. However, Gnokii is applicable for Nokia handsets only under such specifications. It is then suggested that further study be made to do modifications on the said system. The image map used to generate coordinates is not ideal enough for displaying a clearer and quality map, instead, Adobe SVG Viewer for Geographical Information System (GIS) is recommended. It allows user to simply click at a point in a vector map automatically generation its coordinates.

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## **APPENDIX**





```

// date.js
<!--
var months = new Array(13);
months[1] = "January";
months[2] = "February";
months[3] = "March";           months[4] = "April";
months[5] = "May";             months[6] = "June";
months[7] = "July";            months[8] = "August";
months[9] = "September";      months[10] = "October";
months[11] = "November";      months[12] = "December";
var time = new Date();
var lmonth = months[time.getMonth() + 1];
var date = time.getDate();
var year = time.getYear();

if (year < 2000)
    year = year + 1900;
    document.write(lmonth + " " + date + ", " + year);
// end of script -->

// drawMarker.js
var jg_doc = new jsGraphics("theOne");
stepsize1_X = 2502;           // x interval for metro manila
stepsize1_Y = 2310;          // y interval for metro manila
stepsize2_X = 834;           // x interval for city
stepsize2_Y = 1155;          // y interval for city

function Draw(x, y)
{
// draws marker
jg_doc.clear();
jg_doc.setStroke(2);
jg_doc.setColor("#FF0066"); // orange
jg_doc.fillEllipse(x, y, 17, 17); // co-ordinates related to the document
jg_doc.paint(); // draws, in this case, directly into the document
}

function hereIam()
{
// gets mouse coordinates
locX=event.offsetX;
locY=event.offsetY;

s1X = document.hidden.step1X.value;
s1Y = document.hidden.step1Y.value;
s2X = document.hidden.step2X.value;
s2Y = document.hidden.step2Y.value;

prev_x_coor = s1X*stepsize1_X+s2X*stepsize2_X;
prev_y_coor = s1Y*stepsize1_Y+s2Y*stepsize2_Y;

document.all.X.value = locX+prev_x_coor;
document.all.Y.value = locY+prev_y_coor;

Draw(locX, locY);
}

function Draw_trans(x, y)
{
var jg_doc = new jsGraphics("theOne");
jg_doc.setColor("transparent"); // clear
jg_doc.fillEllipse(x, y, 10, 10); // co-ordinates related to the document
jg_doc.paint(); // draws, in this case, directly into the document
}

// hosp-prof.php
<html>
<head>
<title> View Hospital List</title>
<link href = "mey.css" type = "text/css" rel = stylesheet>
</head>
<body bgcolor="white" text="#000066" alink="#ff3399" vlink="#ff3399" link="#ff3399" marginheight=0
bottommargin="20" topmargin="10" leftmargin="50" rightmargin="50"> <center>
<table bgcolor="#FFCC66" border=1 bordercolor=black width="100%" cellpadding=0 cellspacing=0>
<tr>

```







```

// logout.php
<?
session_start();
session_unregister("HCode");
session_unregister("username");
session_unregister("type");
session_destroy();
header("location: index.php");
?>

// mey.css

a{color: #5555FF; font-size: 12px; font-family: Verdana;}
A:Hover{color: #FF44AA;}
A.main{color: #DD3399; font-size: 12px; font-family: Verdana;}
A.main:Hover{color: #88AA88;}
A.alpha{
color: #CC2200; font-size: 12px; font-family: Verdana;}
A.alpha:Hover{
color: #6688AA; text-decoration: none;}
.button {
        color: #FFFFFF; background-color: #009999; font-weight: bold; font-size: 11px;
    }
BODY {
        font-family: Verdana;
    }
TD {
        font-size: 12px;
    }
TH {
        font-size: 11px; background-color: #EEEE99;
    }
INPUT {
        border-right: #0066FF 1px solid; border-top: #0066FF 1px solid; border-left: #0066FF 1px solid;
border-bottom: #0066FF 1px solid;
    }
    .button {
        color: #FFFFFF; background-color: #009999; font-weight: bold; font-size: 11px;
border-right: #FFFFCC 1px solid; border-top: #FFFFCC 1px solid; border-left: #FFFFCC 1px solid;
border-bottom: #FFFFCC 1px solid;
    }
    .hname {
        color: #2266BB; font-size: 13px; font-family: Arial, Sans Serif;
    }
    .result {
        font-family: Verdana; font-size: 12px; text-indent: 15px;
    }
    .value {
        font-weight: bold;
    }
    .title {
        color: white; font-family: Arial, Sans Serif; font-size: 17px; font-weight: bold; background-color:
transparent; text-indent: 15px; text-align: left;
    }
    .white {
        background-color: white;
    }
    .about {
        color: white; font-family: Arial, Sans Serif; font-size: 13px; font-weight: bold; background-color:
transparent; text-indent: 15px; text-align: center;
    }
    .inst {
        color: maroon; font-family: Sans Serif; font-size: 15px; background-color: transparent; text-indent:
15px; text-align: center;
    }

// meybs.php
<?
    require "connect.php";
?>
<html>
<head>
<title> Nearest Hospital Search</title>
<link href = "mey.css" type = "text/css" rel = stylesheet>
</head>
<body bgcolor="white" text="#000066" alink="#ff3399" vlink="#ff3399" link="#ff3399" marginheight=0
bottommargin="20" topmargin="10" leftmargin="50" rightmargin="50">

```













```

$get_spec = mysql_query("SELECT * FROM specialty GROUP By SpecCode");
if (isset($SpecCode))
    $value = $SpecCode;
echo "<SELECT name = 'SpecCode'>";
echo "<OPTION value="" -- </OPTION>";
for($i = 0; $i < mysql_num_rows($get_spec); $i++)
{
    $specList = mysql_fetch_array($get_spec);
    if($value == $specList["SpecCode"])
    {
        echo "<option value = ".$specList["SpecCode"]." SELECTED>";
$specList["SpecName"]."</option>";
    }
    else
        echo "<option value = ".$specList["SpecCode"].">";
$specList["SpecName"]."</option>";
}
?>
</SELECT>
</td>
<td colspan=2>
<b>Facility: </b>
<?
    $get_fac = mysql_query("SELECT * FROM facility GROUP BY FCode");
    if (isset($FCode))
        $value = $FCode;
    echo "<SELECT name = 'FCode'>";
    echo "<OPTION value="" -- </OPTION>";
    for($i = 0; $i < mysql_num_rows($get_fac); $i++)
    {
        $facList = mysql_fetch_array($get_fac);
        if($value == $facList["FCode"])
        {
            echo "<option value = ".$facList["FCode"]." SELECTED>";
$facList["FName"]."</option>";
        }
        else
            echo "<option value = ".$facList["FCode"].">";
$facList["FName"]."</option>";
    }
?>
</SELECT>
</td>
</tr>
<tr>
<td bgcolor = #EEEE99 colspan=5>
<b>Doctor's Schedule</b>
</td>
</tr>
<tr bgcolor = white>
<td><b>Day: </b>
<SELECT name="day">
<OPTION value="" -- </OPTION>
<?
    $days["M"] = "Monday";
    $days["W"] = "Wednesday";
    $days["F"] = "Friday";
    $days["Sun"] = "Sunday";
    $days["T"] = "Tuesday";
    $days["Th"] = "Thursday";
    $days["Sat"] = "Saturday";

    while(list($index, $name) = each($days))
    {
        if($day == $index)
            echo "<option value = ".$index." SELECTED>".$name."</option>";
        else
            echo "<option value = ".$index.">".$name."</option>";
    }
?>
</SELECT>
</td>
<td colspan=2><b>Time Start: </b>
<SELECT name="time">
<OPTION value="" -- </OPTION>
<?
    $times["8"] = "08:00";
    $times["9"] = "09:00";

```

```

$times["10"] = "10:00";          $times["11"] = "11:00";
$times["12"] = "12:00";          $times["1"] = "01:00";
$times["2"] = "02:00";          $times["3"] = "03:00";
$times["4"] = "04:00";          $times["5"] = "05:00";
$times["6"] = "06:00";          $times["7"] = "07:00";

while(list($index, $name) = each($times))
{
    if($time == $index)
        echo "<option value = '$index.' SELECTED>".$name."</option>";
    else
        echo "<option value = '$index.'>".$name."</option>";
}

?>

</SELECT>
<SELECT name="am_pm">
    <OPTION value=""> -- </OPTION>

<?
    if($am_pm == "AM")
    {
        echo "<OPTION value = 'AM' SELECTED>AM</OPTION>";
        echo "<OPTION value = 'PM'>PM</OPTION>";
    }
    elseif($am_pm == "PM")
    {
        echo "<OPTION value = 'PM' SELECTED>PM</OPTION>";
        echo "<OPTION value = 'AM'>AM</OPTION>";
    }
    else
    {
        echo "<OPTION value = 'AM'>AM</OPTION>";
        echo "<OPTION value = 'PM'>PM</OPTION>";
    }
}

?>

</SELECT>
</td>
</tr>
<tr bgcolor = white>
<td colspan=3 align=center>
    <input type=submit name=search value="Search for Hospital" class="button">
</td>
</tr>
</td></tr>
</table>
</form>

<?
    if(!empty($search))
    {
        if(empty($SpecCode) && empty($FCode) && empty($day) && empty($time))
            $query = "SELECT * FROM hospital WHERE hospital.city = '$City' ORDER BY
hospital.HName";
        elseif(!empty($SpecCode) && empty($FCode) && empty($day) && empty($time))
            $query = "SELECT * FROM hospital, specialty WHERE hospital.city = '$City' AND
hospital.HCode = specialty.HCode AND SpecCode = $SpecCode ORDER BY hospital.HName";
        elseif(!empty($FCode) && empty($SpecCode) && empty($day) && empty($time))
            $query = "SELECT * FROM hospital, facility WHERE hospital.city = '$City' AND hospital.HCode
= facility.HCode AND facility.FCode = $FCode ORDER BY hospital.HName";
        else
        {
            $query = "SELECT * FROM hospital, facility, specialty, schedule, doctor WHERE hospital.city
= '$City'";

            $with = 0;
            $q_string = "Hospitals ";
            if(!empty($City))
                $q_string = $q_string."in the city $City";
            if(!empty($FCode))
            {
                $query = $query." AND";
                $query = $query." hospital.HCode = facility.HCode AND facility.FCode = $FCode";
                if($with == 0)
                {
                    $q_string = $q_string." with ";
                    $with++;
                }
            }
            $q1 = mysql_query("SELECT * FROM facility WHERE FCode = $FCode");

```





```

    }
    else
    {
?>
        <b><DIV class='white' style='width: 75%'>Found <? echo
mysql_num_rows($hosp_query) ?> match(es) <?//Ordered by Distance (Nearest to Farthest)?></div></b><br>
<?
        if(!empty($day) || !empty($time))
        {
            echo "<table width = 90% border = '1' bordercolor = #ffffff cellpadding = 4>";
            echo "<th>Hospital</th><th>Address</th><th>Tel. No.</th>";
            echo "<th>Doctor</th><th>Schedule</th>";
        }
        else
        {
?>
            <table width="75%" border="1" bordercolor = #ffffff cellpadding = 4>
            <th>Hospital</th>
            <th>Address</th>
            <th>Tel. No.</th>
<?
        }
        $schedID = array();
        $mycount = 0;
        for($i = 0; $i < mysql_num_rows($hosp_query); $i++)
        {
            $hospList = mysql_fetch_array($hosp_query);
            $name = $hospList["HName"];
            if(!empty($day) || !empty($time))
            {
                if(!in_array($hospList["SID"], $schedID))
                    $schedID[$i] = $hospList["SID"];
            }

            $get = mysql_query("SELECT HCode FROM hospital WHERE HName = '$name'");
            $code = mysql_fetch_row($get);
            $gotList[$mycount] = $code[0];
            $mycount++;
        }
        $cnt = 0;

        foreach($gotList as $code)
        {
            $query = "SELECT * FROM hospital WHERE HCode = '$code'";
            $result = mysql_query ($query);

            $mindist = 0;

            if ($myrow = mysql_fetch_array($result))
            {
                do
                {
                    //echo("<br>HCode = ".$myrow["HCode"]." &nbsp;&nbsp;&nbsp;Hospital Name
= ".$myrow["HName"]." &nbsp;&nbsp;&nbsp;X-Coor = ".$myrow["X"]." &nbsp;&nbsp;&nbsp;Y-Coor = ".$myrow["Y"]);
                    $distance = sqrt(($myX - $myrow["X"])*($myX - $myrow["X"]) +
(($myY - $myrow["Y"])*($myY - $myrow["Y"])));

                    if($mindist == 0 )
                    {
                        $mindist = $distance;
                        $nhcode = $myrow["HCode"];
                        $distances[$nhcode] = $distance;
                    }
                    else
                    {
                        if ($distance < $mindist)
                        {
                            $mindist = $distance;
                            $nhcode = $myrow["HCode"];
                            $distances[$nhcode] =
$distance;
                        }
                    }
                } while ($myrow = mysql_fetch_array($result));
            }
            $cnt++;
        }
    }
}

```

```

    }
  }
  //asort($distances);
  if(!empty($day) || !empty($time))
  {
    while((list($theCode, $dist) = each ($distances)))
    {
      foreach($schedID as $sched)
      {
        $query = "SELECT * FROM hospital, doctor, schedule WHERE
hospital.HCode = doctor.HCode AND doctor.HCode = '$theCode' AND schedule.ID = doctor.ID AND schedule.SID = $sched
GROUP BY schedule.SID";

        $result2 = mysql_query($query);
        if(mysql_num_rows($result2) > 0)
        {
          $hospList2 = mysql_fetch_array($result2);
          echo "<TR bgcolor=white>";
          echo "<TD align=center><font size='2'>";
          echo $hospList2["HName"]."</TD>";
          echo "<TD width='45%' align=center><font
size='2'>". $hospList2["ENo"]."&nbsp;". $hospList2["StreetName"]."&nbsp;";
          $hospList2["City"]."</font></center></TD>";

          echo "<TD align=center><font size='2'>";
          echo $hospList2["TelNo"]."</TD>";
          echo "<TD align=center><font size='2'>";
          echo $hospList2["DLName"].", ";

          echo "<TD align=center><font size='2'>";

          $time1 = $hospList2["TimeStart"];
          $time2 = $hospList2["TimeEnd"];
          $ampm1 = "AM";
          $ampm2 = "AM";
          if($hospList2["TimeStart"] == 0)
          {
            $time1 = 12;
          }
          if($hospList2["TimeEnd"] == 0)
          {
            $time2 = 12;
          }
          if($hospList2["TimeStart"] >= 12)
          {
            $ampm1 = "PM";
            if($hospList2["TimeStart"] > 12)
              $time1 =

$hospList2["TimeStart"] - 12;

          }
          if($hospList2["TimeEnd"] >= 12)
          {
            $ampm2 = "PM";
            if($hospList2["TimeEnd"] > 12)
              $time2 = $hospList2["TimeEnd"]

- 12;

          }
          echo $hospList2["day"].", ".$time1." ".$ampm1." - ".

$time2." ".$ampm2."</TD>";

        }
      }
    }
  }
  else
  {
    while((list($theCode, $dist) = each ($distances)))
    {
      $result = mysql_query("SELECT * FROM hospital WHERE HCode =

'$theCode'");

      $hospList = mysql_fetch_array($result);
      echo "<TR bgcolor=white>";
      echo "<TD align=center><font size='2'>";
      echo $hospList["HName"]."</TD>";
      echo "<TD width='45%' align=center><font size='2'>".
$hospList["ENo"]."&nbsp;". $hospList["StreetName"]."&nbsp;". $hospList["City"]."</font></center></TD>";
      echo "<TD align=center><font size='2'>";
      echo $hospList["TelNo"]."</TD>";
    }
  }
}

```











```

obj2 = document.getElementById(id_2);
if(obj1.style.display != "none" )
    obj1.style.display = "none"; // set previous object to invisible mode
obj2.style.display = "inline"; // set new object to visible mode
}
</script>
<td background="./images/title.gif" style="background-repeat: no-repeat" valign = "top" colspan = 2>
<br>
<p class="title" align = center>Hospital Search</p>
<center>
<table><tr><tr><td align="center" class="inst"><b> INSTRUCTIONS: </b><br>
<b>1.</b> Click on the Metro Manila map the city or town u want to enter. (eg. Manila)
</td></tr>
</table><br>
<table border=0 bgcolor=white>
<tr>
<td>
<div style="background-color: #FFFFCC"><b>Map Control</b></div><br>
<div style="background-color: #FFFFFF">
<a href="#" onClick="zoom('in')">Zoom In</a> |
<a href="#" onClick="zoom('restore')">Normal</a> |
<a href="#" onClick="zoom('out')">Zoom Out</a>
</div>
</td>
</tr>
</table>
<table border=0>
<tr>
<td align=center>
<map name="map1">
<area href="view-map2.php?step1X=0&step1Y=1" shape="polygon" coords="93, 236, 108, 234,
133, 218, 145, 198, 107, 169, 108, 159, 82, 155, 79, 148, 72, 149, 66, 156, 57, 156, 53, 163, 61, 183, 52, 184, 68,
212">
</map>
<map name="map2">
<area href="view-map2.php?step1X=0&step1Y=1" shape="polygon" coords="122, 317, 144, 314,
155, 305, 179, 291, 183, 278, 195, 267, 141, 226, 142, 213, 95, 213, 86, 214, 74, 214, 69, 223, 80, 248, 70, 247, 92,
284, 122, 312, 123, 313">
</map>
<map name="map3">
<area href="view-map2.php?step1X=0&step1Y=1" shape="polygon" coords="92, 268, 121, 273,
126, 260, 137, 266, 160, 265, 167, 267, 176, 267, 177, 286, 244, 334, 242, 339, 230, 350, 226, 361, 174, 394, 156, 392,
117, 354, 86, 308, 102, 309, 87, 275">
</map>
<map name="map4">
<area href="view-map2.php?step1X=0&step1Y=1" shape="polygon" coords="212, 324, 206, 342,
291, 401, 294, 406, 277, 418, 271, 434, 211, 471, 190, 473, 185, 471, 144, 428, 103, 376, 122, 372, 106, 331, 113, 316,
139, 325, 150, 315, 162, 323, 184, 319, 195, 319">
</map>
<map name="map5">
<area href="view-map2.php?step1X=0&step1Y=1" shape="polygon" coords="133, 367, 156, 377,
164, 352, 189, 375, 219, 371, 245, 377, 241, 397, 340, 471, 335, 480, 320, 489, 316, 509, 249, 550, 231, 553, 214, 547,
161, 498, 118, 438, 118, 434, 141, 435, 118, 388">
</map>





</td>
</tr>
</table>
<br><br><br><br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM.<a
href="mailto:nhsis.webmaster@yahoo.com">contact us.</a></font></center>
</font><br>
</td>
</font>

```















```

        $insert_sql = mysql_query("INSERT INTO facility VALUES('$fac', '$HCodeUser',
'$FName', '$Number')");

        // check if facility was inserted
        if (mysql_affected_rows($connect) < 1)
            echo ("<center><b>$FName not added.</b></center>");
        else
            echo ("<center><b>$FName added.</b></center>");
    }
    echo("<br><br><a href = add-fac.php onClick = 'history.go(-1)'>Back to Add
Facility</a></center>");
}
?>
        <br><br> <br><br><br><br><br><br><br><br><br><br><br><br><br><br>
        <center><font face="Verdana" size="1">copyright2004. UPM. <a
href="mailto:nhsis.webmaster@yahoo.com">contact us.</a></font></center>
        </font><br>
    </td>
</tr>
</font>
</table>
</center>
</body>
</html>

// add-sched.php
<?
require "../header/hospital.php";
?>
    <p align="center" class="title"><b>Add Schedule</b></p>
    <font face="Verdana" size = "2">

<?php
    if (empty($submit))
    {
        <script language = JavaScript src = form.js></script>
        <FORM METHOD="post" ACTION="add-sched.php" onSubmit = "return chkForm();>
        <center>
        <table width=95% bgcolor=#BDDDFD border=1 bordercolor=#FFFFFF cellspacing=0 cellpadding=2
style="font-family: Verdana; font-size: 12px; text-indent: 15px" rules=none>
        <tr>
            <td>Doctor Code:</td>
            <td colspan=3><INPUT TYPE="text" NAME="ID" value="<?echo $ID;?>" size="25"></td>
        </tr>
        <tr>
            <td colspan=3>Schedule:</td><br><br>
        </tr>
        <tr>
            <td>Day:
            <SELECT NAME="day" multiple>
            <option value="M"> M
            <option value="T"> T
            <option value="W"> W
            <option value="Th"> Th
            <option value="F"> F
            <option value="Sat"> Sat
            <option value="Sun"> Sun
            </SELECT>&nbsp;
            </td>
            <td>Time:
            <SELECT NAME="TimeStart" multiple>
            <option value="7"> 7:00
            <option value="8"> 8:00
            <option value="9"> 9:00
            <option value="10"> 10:00
            <option value="11"> 11:00
            <option value="12"> 12:00
            <option value="1"> 1:00
            <option value="2"> 2:00
            <option value="3"> 3:00
            <option value="4"> 4:00
            <option value="5"> 5:00
            <option value="6"> 6:00

```





```

</body>
</html>

// add-sched.php
<?
    require "../header/hospital.php";
    include "../connect.php";
?>
    <p class="title"><b>Add Specialty</b></p>
    <div align="center">
        <A href="edit-spec.php">Edit Specialty</A>&nbsp;&nbsp;&nbsp;</div>
    <center>

<?

if (empty ($submit))
{
    echo "<form action='add-spec.php' method=post>";
    echo "<br><a href='new-spec.php'><b><div align='center'>Register New Specialty</b></a></div>";

    // get those from this hospital
    $chk_hcode = mysql_query ("SELECT * FROM specialty WHERE HCode = '$HCodeUser'");

    // $query is the query for getting all specialties not present in the hospital
    // it will be called later
    $query = "SELECT * FROM specialty WHERE HCode != '$HCode'";

    for ($i = 0; $i < @mysql_num_rows($chk_hcode); $i++)
    {
        $hosp_data = mysql_fetch_array($chk_hcode);
        $code = $hosp_data["SpecCode"];
        $codes[$i] = $hosp_data["SpecCode"];
        $query = $query." AND SpecCode != '$code'";
    }

    // get those specialties which are not present in the hospital
    $chk_spec = mysql_query($query);
    if (@mysql_num_rows($chk_spec) > 0)
    {
        echo "<br>";
        echo "<table border=1 cellpadding=4 bordercolor=#FFFFFF width = 70%>";
        echo "<tr><td bgcolor=#EEEE99><b>Other Registered Specialties</b></td></tr>";
        for ($i = 0; $i < @mysql_num_rows($chk_spec); $i++)
        {
            $data = mysql_fetch_array($chk_spec);
            $code = $data["SpecCode"];
            echo "<tr><td bgcolor=white><input type = 'checkbox' value='$code'
name=SpecCode>&nbsp;&nbsp;&nbsp;". $data["SpecName"]. "</td></tr>";
        }
        echo "<tr><td align=center><input type =submit name='submit' value= submit
class='button'></center></td></tr>";
        echo "</table>";
    }
    echo "</form>";
}
else
{
    echo "<br><br>";
    // checks if Specialty is existing already
    $check_sql = mysql_query("SELECT * FROM specialty WHERE SpecCode = '$SpecCode' AND HCode =
'$HCode'");
    if (@mysql_num_rows($check_sql) != 0 )
    {
        echo ("<center><br><b>Specialty already existing.</b><br><a href ='add-spec.php'
onClick = 'history.go(-1)'>Back</a></center>");
    }
    else
    {
        // get Specialty name first
        $get_name = mysql_query("SELECT DISTINCT SpecName FROM specialty WHERE SpecCode
= '$SpecCode'");
        $data = mysql_fetch_row($get_name);
        $SpecName = $data[0];

        // inserts Specialty info
        $insert_sql = mysql_query("INSERT INTO specialty VALUES('$SpecCode', '$HCodeUser',
'$SpecName')");
    }
}
}
}


```











```

        {
            echo ("<br><br><b>Specialty deleted.</b><BR><br><br><A href = view-speclist.php onClick =
'history.go(-1)'>Delete Another</A>");
        }
    ?>
<br><br> <br><br><br><br><br><br><br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM. <a href="mailto:nhsis.webmaster@yahoo.com"> contact
us</a></font></center>
</font>
<br>
</td>
</font>
</table>
</center>
</body>
</html>

// del-syn-fac.php
<?
    require "../header/hospital.php";
    include "../connect.php";
    $getFac = mysql_query("SELECT * FROM `syn_facility` WHERE Synonym = '$Synonym'");
    $data = mysql_fetch_array($getFac);
    $code = $data ["FCode"];
?>
    <p class="title"><b>Delete Synonym</b></p>
    <center>
        <br><br><A href="add-syn-fac.php?FCode=<?echo($code)?">Add Synonym for
Facility</A>&nbsp;&nbsp;&nbsp;
    <?
        $delFac = mysql_query("DELETE FROM `syn_facility` WHERE Synonym = '$Synonym'");
        if (@mysql_affected_rows($connect) < 1)
        {
            echo ("<br><br><br><b>Delete failed.</b><BR><br><br><A href = syn-fac.php?FCode=$code onClick
= 'history.go(-1)'>Back to Synonym List</A>");
        }
        else
        {
            echo ("<br><br><br><b>Facility deleted.</b><BR><br><br><A href = syn-fac.php?FCode=$code
onClick = 'history.go(-1)'>Delete Another</A>");
        }
    ?>
<br><br> <br><br><br><br><br> <br><br><br><br><br> <br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM. <a href="mailto:nhsis.webmaster@yahoo.com"> contact
us</a></font></center>
</font>
<br>
</td>
</font>
</table>
</center>
</body>
</html>

// del-syn-spec.php
<?
    require "../header/hospital.php";
    include "../connect.php";
    $getSpec = mysql_query("SELECT * FROM `syn_specialty` WHERE Synonym = '$Synonym'");
    $data = mysql_fetch_array($getSpec);
    $code = $data ["SpecCode"];
?>
    <p class="title"><b>Delete Synonym</b></p>
    <center>
        <br><br><A href="add-syn-spec.php?SpecCode=<?echo($code)?">Add Synonym for
Specialty</A>&nbsp;&nbsp;&nbsp;
    <?
        $delSpec = mysql_query("DELETE FROM `syn_specialty` WHERE Synonym = '$Synonym'");
        if (@mysql_affected_rows($connect) < 1)
        {
            echo ("<br><br><br><b>Delete failed.</b><BR><br><br><A href = syn-spec.php?SpecCode=$code
onClick = 'history.go(-1)'>Back to Synonym List</A>");
        }
        else
        {

```







```

        </tr>
        <tr>
            <td colspan=2 align=center>
                <INPUT TYPE="submit" VALUE="submit" NAME= "getCode" CLASS="button"></td>
        </tr>
    </FORM>
</table>
<?
}
else
{
    include "../connect.php";
    if (empty($update))
    {
        // checks if hospital is existing
        $check_sql = mysql_query("SELECT * FROM facility WHERE FCode = '$FCode' AND HCode =
'$HCodeUser'");
        $data = mysql_fetch_array($check_sql); // get row from $check_sql

        if (@mysql_num_rows($check_sql) < 1)
        {
            echo("<br><br><center>Facility with code ".$FCode." does not exist in this
hospital.</center><br><center><A href = edit-fac.php onClick = 'history.go(-1)'>Back</a></center>");
            exit();
        }
        else
        {
            <center>
            <FORM METHOD="post" ACTION="edit-fac.php">
            <table align=center width=60% bgcolor=#BBDDFF border=1 bordercolor=white
cellspacing=0 cellpadding=6 rules=none>
            <tr>
                <td colspan=2 align=center bgcolor=#EEEE99><b>Facility Code: <?echo
$FCode;?> </b>
                <input type="hidden" name=FCode value= <?echo $FCode;?>
            </td>
            </tr>
            <tr class="white">
                <td>Name:&nbsp;&nbsp;&nbsp;</td>
                <td><INPUT TYPE="text" NAME="FName" VALUE="<?echo $data["FName"];?>"
size="20"></td>
            </tr>
            <tr class="white">
                <td>Quantity:&nbsp;&nbsp;&nbsp;</td>
                <td><INPUT TYPE="text" NAME="Number" VALUE="<?echo $data["Number"];?
>"size="20"></td>
            </tr>
            <tr class="white">
                <td colspan=2 align=center>&nbsp;&nbsp;&nbsp;<INPUT TYPE="submit"
VALUE="Update" NAME= "update" CLASS = "button">&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&
&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&
                <INPUT TYPE="button" VALUE="Cancel" CLASS = "button">
            </td>
            </tr>
            </table>
            </FORM>
        <?
    }
    else
    {
        echo "<br><br>";
        // updates facility info
        $update_sql = mysql_query("UPDATE facility SET FName = '$FName', Number = '$Number' WHERE
FCode = '$FCode' AND HCode = '$HCodeUser'");

        // check if facility was updated
        if (mysql_affected_rows($connect)< 1)
            echo ("<center> Facility No. ".$FCode." not updated.<br><br><A href = edit-fac.php
onClick = 'history.go(-1)'>Back to Edit</A></center><br>");
        else
            echo ("<center> Facility No. ".$FCode." updated.<BR><br><A href = edit-fac.php onClick
'history.go(-1)'>Edit Another</A></center><br>");
    }
?>

```





```

?>
<br><br> <br><br><br><br><br><br> <br><br><br><br><br><br>
  <center>
    <font face="Verdana" size="1">copyright2004. UPM. <a
href="mailto:nhsis.webmaster@yahoo.com">contact us.</a></font></center>
  </font><br>
</td>
</font>
</table>
</center>
</body>
</html>

// edit-spec.php
<?
    require "../header/hospital.php";
?>
    <p class="title"><b>Edit Specialty</b></p>
    <center>
    <A href="add-spec.php">Add Specialty</A>&nbsp;&nbsp;&nbsp;
    <br>
<?php
    if (empty($getCode) && empty($update)) //check if submit button was clicked
    {
        //get Specialty code to check its existence in the list
?>
        <br><br>
        <center>
        <table width=60% cellpadding=4 cellspacing='0' style="font-family: Verdana; font-size: 12px;
15px" bgcolor=#BBDDFF>
            <FORM method = "POST" action = "edit-spec.php">
            <tr>
                <td><center>Enter Specialty Code:&nbsp;&nbsp;&nbsp;</center></td>
                <td><INPUT TYPE="text" NAME="SpecCode" size="20"></td>
            </tr>
            <tr>
                <td colspan=2 align=center>
                <INPUT TYPE="submit" VALUE="submit" NAME= "getCode" CLASS="button"></td>
            </tr>
            </FORM>
        </table>
    <?
        }
        else
        {
            include "../connect.php";
            if (empty($update))
            {
                // checks if hospital is existing
                $check_sql = mysql_query("SELECT * FROM Specialty WHERE SpecCode = '$SpecCode' AND
HCode = '$HCodeUser'");
                $data = mysql_fetch_array($check_sql); // get row from $check_sql

                if (@mysql_num_rows($check_sql) < 1)
                {
                    echo("<br><br><center>Specialty with code ".$SpecCode." does not exist in this
hospital.</center><br><center><A href = edit-spec.php onClick = 'history.go(-1)''>Back</a></center>");
                    exit();
                }
                else
                {
?>
                    <center>
                    <FORM METHOD="post" ACTION="edit-spec.php">
                    <table align=center width=60% bgcolor=#BBDDFF border=1 bordercolor=white
cellspacing=0 cellpadding=6 rules=none>
                        <tr>
                            <td colspan=2 align=center bgcolor=#EEEE99><b>Specialty Code: <?echo
$SpecCode;?> </b>
                            <td>
                                <input type="hidden" name=SpecCode value= <?echo $SpecCode;?>
                                </td>
                        </tr>
                        <tr class="white">
                            <td>Name:&nbsp;&nbsp;&nbsp;</td>
                            <td><INPUT TYPE="text" NAME="SpecName" VALUE="<?echo
$data["SpecName"];?>" size="20"></td>
                        </tr>

```





```

            echo ("<center>Synonym updated.<br><br><A href = syn-spec.php?
SpecCode=$SpecCode>Edit Another</A></center><br>");
        }
    ?>
        <br><br><br><br><br><br><br><br><br><br><br><br><br><br>
        <center><font face="Verdana" size="1">copyright2004. UPM.<a
href="mailto:nhsis.webmaster@yahoo.com">contact us.</a></font></center>
        </font>
        <br>
        </td>
        </font>
        </table>
</body>
</html>

// hosp-edit.php
<?
    require "../header/hospital.php";
?>
    <p class="title"><b>Hospital Profile</b></p>
<?
    include "../connect.php";
    if (empty($update))
    {
        $query = "SELECT * FROM hospital WHERE HCode = '$HCodeUser'";
        $check_sql=mysql_query($query);
        $hosp = mysql_fetch_array($check_sql);

?>
<script language = JavaScript>
function chkHosp()
{
    if(document.addHosp.StreetName.value.length == 0 || document.addHosp.City.value.length == 0)
    {
        alert("Required field missing.");
        return false;
    }
    return true;
}
</script>
    <center>
    <FORM METHOD="post" ACTION="hosp-edit.php" name="addHosp" onSubmit = "return chkHosp();">
    <table width=80% bgcolor=#BBDDEE border=1 bordercolor=white cellspacing=0 cellpadding=2
style="font-family: Verdana; font-size: 12px; text-indent: 15px" rules=none>
        <tr>
            <td>&nbsp;&nbsp;&nbsp;Hospital Code:&nbsp;&nbsp;&nbsp;</td>
            <td><INPUT TYPE="text" ReadOnly NAME="HCode" VALUE="<?echo
$hosp["HCode"];?>" size="20">
                <INPUT TYPE="hidden" NAME="HCode1" VALUE="<?echo $hosp["HCode"];?>">
            </td>
        </tr>
        <tr>
            <td>&nbsp;&nbsp;&nbsp;Hospital Name:&nbsp;&nbsp;&nbsp;</td>
            <td><INPUT TYPE="text" NAME="HName" VALUE="<?echo $hosp["HName"];?>"
size="20"></td>
        </tr>
        <tr>
            <td>&nbsp;&nbsp;&nbsp;Hospital Synonym:&nbsp;&nbsp;&nbsp;</td>
            <td><INPUT TYPE="text" NAME="HSyno" VALUE="<?echo $hosp["HSyno"];?>"
size="20"></td>
        </tr>
        <tr>
            <td>&nbsp;&nbsp;&nbsp;Establishment No.:&nbsp;&nbsp;&nbsp;</td>
            <td><INPUT TYPE="text" NAME="ENo" VALUE="<?echo $hosp["ENo"];?>"
size="20"></td>
        </tr>
        <tr>
            <td>* Street Name:&nbsp;&nbsp;&nbsp;</td>
            <td><INPUT TYPE="text" NAME="StreetName" VALUE="<?echo
$hosp["StreetName"];?>" size="20"></td>
        </tr>
        <tr>
            <td>* City:&nbsp;&nbsp;&nbsp;</td>
            <td><INPUT TYPE="text" NAME="City" VALUE="<?echo $hosp["City"];?>"
size="20"></td>
        </tr>
    </table>

```













```

        <a href="view-doclist1.php?id1=m&id2=n&id3=o" class="alpha">M-O</A>&nbsp;
        <a href="view-doclist1.php?id1=p&id2=q&id3=r" class="alpha">P-R</A>&nbsp;
        <a href="view-doclist1.php?id1=s&id2=t&id3=u" class="alpha">S-U</A>&nbsp;
        <a href="view-doclist1.php?id1=v&id2=w&id3=x" class="alpha">V-X</A>&nbsp;
        <a href="view-doclist1.php?id1=y&id2=z" class="alpha">Y-Z</A>&nbsp;
        <br><br>
<?
    if (!empty($id1))
    {
        if(empty($id3))
            $id3 = $id2;

        $getDoc = mysql_query("SELECT * FROM doctor WHERE (DLName LIKE '$id1%' OR DLName LIKE
'$id2%' OR DLName LIKE '$id3%') AND HCode = '$HCodeUser' ORDER BY DLName ASC");

        if (@mysql_num_rows($getDoc) < 1)
            echo ("<br><br>0 results.");
        else
        {
?>

            <br>Below are the available doctors for <? echo $HName; ?>
            <br>
            <? echo "<H3>[".$id1."-".$id3."]</H3>"; ?>
            <TABLE border=1 bordercolor=#FFFFFF cellpadding=4>
            <TR><TH><font size='2'>Doctor's ID</font></TH>
            <TH><font size='2'>Last Name</font></TH>
            <TH><font size='2'>First Name</font></TH>
            <TH><font size='2'>Add Schedule?</font></TH></TR>
<?

            for ($i = 0; $i < mysql_num_rows($getDoc); $i++)
            {
                $data = mysql_fetch_array($getDoc);

                echo "<TR bgcolor=white>";
                echo "<TD><center><font size='2'>".$data["ID"]."</font></center></TD>";
                echo "<TD width=20%><center><font size='2'>".
$data["DLName"]."</font></center></TD>";
                echo "<TD width=20%><center><font size='2'>".
$data["DFName"]."</font></center></TD>";
                echo "<TD><center><font size='2'><a href='add-sched.php?ID="
$data["ID"]."'>Add Schedule</a></font></center></TD>";

                echo "</TR>";
            }
            echo "</TABLE>";
        }
    }
?>
<br><br><br><br><br><br><br><br><br><br><br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM. <a href="mailto:nhsis.webmaster@yahoo.com"> contact
us</a></font></center>
</font>
<br>
</td>
</font>
</table>
</center>
</body>
</html>

// view-faclist.php
<?
    require "../header/hospital.php";
?>

    <p class="title"><b>Available Facilities</b></p>
    <center><br>
    <a href="add-fac.php">Add Facility</A>&nbsp;&nbsp;&nbsp;
    <a href="edit-fac.php">Edit Facility</A>&nbsp;&nbsp;&nbsp;
    <br><br><br><br><br><br>
    <a href="view-faclist.php?id1=a&id2=b&id3=c" class="alpha">A-C</A>&nbsp;
    <a href="view-faclist.php?id1=d&id2=e&id3=f" class="alpha">D-F</A>&nbsp;
    <a href="view-faclist.php?id1=g&id2=h&id3=i" class="alpha">G-I</A>&nbsp;
    <a href="view-faclist.php?id1=j&id2=k&id3=l" class="alpha">J-L</A>&nbsp;
    <a href="view-faclist.php?id1=m&id2=n&id3=o" class="alpha">M-O</A>&nbsp;
    <a href="view-faclist.php?id1=p&id2=q&id3=r" class="alpha">P-R</A>&nbsp;

```

```

        <a href="view-faclist.php?id1=s&id2=t&id3=u" class="alpha">S-U</A>&nbsp;
        <a href="view-faclist.php?id1=v&id2=w&id3=x" class="alpha">V-X</A>&nbsp;
        <a href="view-faclist.php?id1=y&id2=z" class="alpha">Y-Z</A>&nbsp;
    <br><br>
<?
    if (!empty($id1))
    {
        if(empty($id3))
            $id3 = $id2;
        $getFac = mysql_query("SELECT * FROM facility WHERE (FName LIKE '$id1%' OR FName LIKE '$id2%'
OR FName LIKE '$id3%') AND HCode = '$HCodeUser'");

        if (@mysql_num_rows($getFac) < 1)
            echo ("<br><br>0 results.");
        else
        {
?>
            <br>Below are the available facilities for <? echo $HName; ?>
            <br>
            <? echo "<H3>[".$id1."-".$id3."]</H3>"; ?>
            <TABLE border=1 bordercolor=#FFFFFF cellpadding=4>
            <TR><TH><font size='2'>Code</font></TH>
            <TH><font size='2'>Name</font></TH>
            <TH><font size='2'>Quantity</font></TH>
            <TH><font size='2'>Synonym</font></TH>
            <TH><font size='2'>Delete Facility?</font></TH></TR>
?>
            for ($i = 0; $i < mysql_num_rows($getFac); $i++)
            {
                $data = mysql_fetch_array($getFac);

                echo "<TR bgcolor=white>";
                echo "<TD><center><font size='2'>".$data["FCode"]."</font></center></TD>";
                echo "<TD width=30%><center><font size='2'>".
$data["FName"]."</font></center></TD>";
                echo "<TD><center><font size='2'>".
$data["Number"]."</font></center></TD>";
                echo "<TD><center><font size='2'><a href='syn-fac.php?FCode=" .
$data["FCode"]."'>Synonyms</a></font></center></TD>";
                echo "<TD><center><font size='2'><a href='del-fac.php?FCode=" .
$data["FCode"]."'>Delete</a></font></center></TD>";
                echo "</TR>";
            }
            echo "</TABLE>";
        }
    }
?>
<br><br> <br><br><br><br><br><br><br><br><br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM. <a href="mailto:nhsis.webmaster@yahoo.com"> contact
us</a></font></center>
</font>
<br>
</td>
</font>
</table>
</center>
</body>
</html>

// view-schedlist.php
<?
    require "../header/hospital.php";
?>

    <p class="title"><b>Schedules of Doctors</b></p>
    <center><br>
    <br><br><br><br>
    <a href="view-schedlist.php?id1=a&id2=b&id3=c" class="alpha">A-C</A>&nbsp;
    <a href="view-schedlist.php?id1=d&id2=e&id3=f" class="alpha">D-F</A>&nbsp;
    <a href="view-schedlist.php?id1=g&id2=h&id3=i" class="alpha">G-I</A>&nbsp;
    <a href="view-schedlist.php?id1=j&id2=k&id3=l" class="alpha">J-L</A>&nbsp;
    <a href="view-schedlist.php?id1=m&id2=n&id3=o" class="alpha">M-O</A>&nbsp;
    <a href="view-schedlist.php?id1=p&id2=q&id3=r" class="alpha">P-R</A>&nbsp;
    <a href="view-schedlist.php?id1=s&id2=t&id3=u" class="alpha">S-U</A>&nbsp;
    <a href="view-schedlist.php?id1=v&id2=w&id3=x" class="alpha">V-X</A>&nbsp;
    <a href="view-schedlist.php?id1=y&id2=z" class="alpha">Y-Z</A>&nbsp;
    <br><br>

```

```

<?
    if (!empty($id1))
    {
        if(empty($id3))
            $id3 = $id2;

        $getSched = mysql_query("SELECT * FROM doctor, schedule WHERE doctor.ID = schedule.ID AND
(DLName LIKE '$id1%' OR DLName LIKE '$id2%' OR DLName LIKE '$id3%') AND HCode = '$HCodeUser' ORDER BY
DLName");

        if (@mysql_num_rows($getSched) < 1)
            echo ("<br><br>0 results.");
        else
        {
?>
            <br>Below are the available doctors for <? echo $HName; ?>
            <br>
            <? echo "<H3>[".$id1."-".$id3."]</H3>"; ?>
            <TABLE border=1 bordercolor=#FFFFFF width=95% cellpadding=3>
            <TR>
                <TH><font size='2'>ID</font></TH>
                <TH><font size='2'>Doctor's Name</font></TH>
                <TH><font size='2'>Day</font></TH>
                <TH><font size='2'>Time Start</font></TH>
                <TH><font size='2'>Time End</font></TH>
                <TH><font size='2'>Edit Schedule?</font></TH>
                <TH><font size='2'>Delete Schedule?</font></TH></TR>

            </TR>

            <?
                for ($i = 0; $i < mysql_num_rows($getSched); $i++)
                {
                    $data = mysql_fetch_array($getSched);

                    echo "<TR bgcolor=white >";
                    echo "<TD align=center><font size='2'>".$data["ID"]."</font></center></TD>";
                    echo "<TD align=center><font size='2'>".$data["DLName"]."&nbsp;";
                    $data["DFName"]."</font></center></TD>";
                    echo "<TD align=center><font size='2'>".$data["day"]."</font></center></TD>";
                    echo "<TD align=center><font size='2'>".DispTime($data["TimeStart"])."</font></center></TD>";
                    echo "<TD align=center><font size='2'>".DispTime($data["TimeEnd"])."</font></center></TD>";
                    echo "<TD align=center><font size='2'><a href='edit-sched.php?ID=" .
                    $data["SID"]."'>Edit </a></font></center></TD>";
                    echo "<TD align=center><font size='2'><a href='del-sched.php?ID=" .
                    $data["SID"]."'>Delete </a></font></center></TD>";
                    echo "</TR>";
                }
            }
            echo "</TABLE>";
        }
    }
?>
<?
function DispTime($time)
{
    if ($time >= 12)
    {
        if ($time > 12)
            $time = $time - 12;
        $time = $time. " PM";
    }
    else
        $time = $time. " AM";

    return $time;
}
?>

<br><br> <br><br><br><br><br><br><br><br><br><br><br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM. <a href="mailto:nhsis.webmaster@yahoo.com"> contact
us</a></font></center>
</font>
<br>
</td>
</font>
</table>
</center>

```





```

<?
    session_start();
    if ($type != "system admin")
    {
        header("location: ../index.php");
        exit();
    }
?>

// form.js
function chkForm(form1)
{
    count = 0;

    if (form1.HCode.value.length == 0)
        count++;
    if (form1.HName.value.length == 0)
        count++;
    if (form1.X.value.length == 0)
        count++;
    if (form1.Y.value.length == 0)
        count++;
    if (count > 0)
    {
        alert("Missing field.");
        return false;
    }
    return true;
}

// sys-add.php
<?
    require "check_sysad.php";
    require "../header/sys_admin.php";
?>
<script language="JavaScript1.2">

var zoomFactor = 3 //Enter factor (1=100%)
var ImgArray = new Array("../images/metromanila0_map.gif", "../images/metromanila1_map.gif",
"../images/metromanila2_map.gif", "../images/metromanila3_map.gif", "../images/metromanila4_map.gif",
"../images/metromanila5_map.gif");

function zoom(state)
{
    if(state == 'in' && zoomFactor < 5)
    {
        zoomFactor++;
        //document.images.metromanila.src = ImgArray[zoomFactor];
        //document.images.metromanila.style.useMap = "map1";
        changeImg(zoomFactor-1, zoomFactor);
    }
    if(state == 'restore')
    {
        old = zoomFactor;
        zoomFactor = 3;
        changeImg(old, zoomFactor);
    }

    if(state == 'out' && zoomFactor > 1)
    {
        zoomFactor--;
        //document.images.metromanila.src = ImgArray[zoomFactor];
        changeImg(zoomFactor+1, zoomFactor);
    }
    return;
}

function changeImg(id_1, id_2)
{
    obj1 = document.getElementById(id_1);
    obj2 = document.getElementById(id_2);
    if(obj1.style.display != "none" )
        obj1.style.display = "none"; // set previous object to invisible mode
    obj2.style.display = "inline"; // set new object to visible mode
}

```

```

</script>

<p align="center" class="title">Registration Page</p>
<center>
<table border=0 bgcolor=white>
<tr>
<td>
<div style="background-color:#FFFFCC"><b>Map Control</b></div><br>
<div style="background-color:#FFFFFF">
<a href="#" onClick="zoom('in')">Zoom In</a> |
<a href="#" onClick="zoom('restore')">Normal</a> |
<a href="#" onClick="zoom('out')">Zoom Out</a>
</div>
</td>
</tr>
</table>
<table border=0>
<tr>
<td align=center>
<map name="map1">
<area href="sys-add2.php?step1X=0&step1Y=1" shape="polygon" coords="93, 236, 108, 234,
133, 218, 145, 198, 107, 169, 108, 159, 82, 155, 79, 148, 72, 149, 66, 156, 57, 156, 53, 163, 61, 183, 52, 184, 68,
212">
</map>
<map name="map2">
<area href="sys-add2.php?step1X=0&step1Y=1" shape="polygon" coords="122, 317, 144, 314,
155, 305, 179, 291, 183, 278, 195, 267, 141, 226, 142, 213, 95, 213, 86, 214, 74, 214, 69, 223, 80, 248, 70, 247, 92,
284, 122, 312, 123, 313">
</map>
<map name="map3">
<area href="sys-add2.php?step1X=0&step1Y=1" shape="polygon" coords="92, 268, 121, 273,
126, 260, 137, 266, 160, 265, 167, 267, 176, 267, 177, 286, 244, 334, 242, 339, 230, 350, 226, 361, 174, 394, 156, 392,
117, 354, 86, 308, 102, 309, 87, 275">
</map>
<map name="map4">
<area href="sys-add2.php?step1X=0&step1Y=1" shape="polygon" coords="212, 324, 206, 342,
291, 401, 294, 406, 277, 418, 271, 434, 211, 471, 190, 473, 185, 471, 144, 428, 103, 376, 122, 372, 106, 331, 113, 316,
139, 325, 150, 315, 162, 323, 184, 319, 195, 319">
</map>
<map name="map5">
<area href="sys-add2.php?step1X=0&step1Y=1" shape="polygon" coords="133, 367, 156, 377,
164, 352, 189, 375, 219, 371, 245, 377, 241, 397, 340, 471, 335, 480, 320, 489, 316, 509, 249, 550, 231, 553, 214, 547,
161, 498, 118, 438, 118, 434, 141, 435, 118, 388">
</map>






</td>
</table>

<br><br><br><br><br><br><br>
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href="mailto:nhsis.webmaster@yahoo.com">contact us.</a></font></center>
</font><br>
</td>
</font>
</table>
</center>
</body>
</html>

// sys-add2.php
<?
require "check_sysad.php";
require "../header/sys_admin.php";

?>
<script language="JavaScript1.2">

```

```

var zoomFactor = 3 //Enter factor (1=100%)

function zoom(state)
{
    if(state == 'in' && zoomFactor < 5)
    {
        zoomFactor++;
        changeImg(zoomFactor-1, zoomFactor);
    }
    if(state == 'restore')
    {
        old = zoomFactor;
        zoomFactor = 3;
        changeImg(old, zoomFactor);
    }

    if(state == 'out' && zoomFactor > 1)
    {
        zoomFactor--;
        changeImg(zoomFactor+1, zoomFactor);
    }
    return;
}

function changeImg(id_1, id_2)
{
    obj1 = document.getElementById(id_1);
    obj2 = document.getElementById(id_2);
    if(obj1.style.display != "none")
        obj1.style.display = "none"; // set previous object to invisible mode
    obj2.style.display = "inline"; // set new object to visible mode
}
</script>

<p align="center" class="title">View Map</p>
<center>
<table border=0>
<tr>
<td align=center><font size=4><b>Map of Manila</b></font><br><br><table border=0>
<p><map name="FPMap0">
<?
echo "<area href='sys-add3.php?
pic=manila1.gif&amp;step2X=0&amp;step2Y=0&amp;step1X=$step1X&amp;step1Y=$step1Y' shape='polygon' coords='13,
48, 69, 21, 142, 9, 188, 8, 187, 303, 13, 302, 0, 213'>";
echo "<area href='sys-add3.php?
pic=manila2.gif&amp;step2X=1&amp;step2Y=0&amp;step1X=$step1X&amp;step1Y=$step1Y' shape='polygon'
coords='188, 7, 388, 4, 388, 304, 190, 303'>";
echo "<area href='sys-add3.php?
pic=manila3.gif&amp;step2X=2&amp;step2Y=0&amp;step1X=$step1X&amp;step1Y=$step1Y' shape='polygon'
coords='532, 301, 564, 247, 577, 155, 585, 68, 565, 22, 393, 5, 392, 302'>";
echo "<area href='sys-add3.php?
pic=manila4.gif&amp;step2X=0&amp;step2Y=1&amp;step1X=$step1X&amp;step1Y=$step1Y' shape='polygon' coords='11,
304, 37, 415, 164, 606, 165, 306'>";
echo "<area href='sys-add3.php?
pic=manila5.gif&amp;step2X=1&amp;step2Y=1&amp;step1X=$step1X&amp;step1Y=$step1Y' shape='polygon'
coords='168, 305, 339, 305, 338, 605, 167, 606'>";
echo "<area href='sys-add3.php?
pic=manila6.gif&amp;step2X=2&amp;step2Y=1&amp;step1X=$step1X&amp;step1Y=$step1Y' shape='polygon'
coords='341, 307, 531, 306, 537, 470, 519, 565, 351, 729, 341, 597'>";
?>
</map>
</p>
</td>
</tr>
</table>

<br><br><br><br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM.<a
href="mailto:nhsis.webmaster@yahoo.com">contact us.</a></font></center>
</font><br>
</td>
</font>
</table>
</center>
</body>

```



```

stepsize2_X = 834; // x interval for city
stepsize2_Y = 1155; // y interval for city

function Draw(x, y)
{
    // draws marker
    jg_doc.clear();
    jg_doc.setStroke(2);
    jg_doc.setColor("#FF0066"); // orange
    jg_doc.fillEllipse(x, y, 17, 17); // co-ordinates related to the document
    jg_doc.paint(); // draws, in this case, directly into the document
}

function hereIam()
{
    // gets mouse coordinates
    locX=event.offsetX;
    locY=event.offsetY;

    s1X = document.hidden.step1X.value;
    s1Y = document.hidden.step1Y.value;
    s2X = document.hidden.step2X.value;
    s2Y = document.hidden.step2Y.value;

    prev_x_coor = s1X*stepsize1_X+s2X*stepsize2_X;
    prev_y_coor = s1Y*stepsize1_Y+s2Y*stepsize2_Y;

    document.all.X.value = locX+prev_x_coor;
    document.all.Y.value = locY+prev_y_coor;

    Draw(locX, locY);
}

function Draw_trans(x, y)
{
    var jg_doc = new jsGraphics("theOne");
    jg_doc.setColor("transparent"); // clear
    jg_doc.fillEllipse(x, y, 10, 10); // co-ordinates related to the document
    jg_doc.paint(); // draws, in this case, directly into the document
}

function chkSysAdd()
{
    if(document.addHosp.HName.value.length == 0 || document.addHosp.InitPass.value.length == 0 ||
document.addHosp.RetPass.value.length == 0)
    {
        alert("Required field missing.");
        return false;
    }
    else
        if(document.addHosp.InitPass.value != document.addHosp.RetPass.value)
        {
            alert("Passwords do not match.");
            return false;
        }
    return true;
}
</script>

<script language = JavaScript src = ../form.js></script>
<?
echo "<br>Required fields. (*)";
?>

<form name="hidden" method="post" action="sys-add3.php">
<input type="hidden" name="step1X" value="<?echo $step1X; ?>">
<input type="hidden" name="step1Y" value="<?echo $step1Y; ?>">
<input type="hidden" name="step2X" value="<?echo $step2X; ?>">
<input type="hidden" name="step2Y" value="<?echo $step2Y; ?>">
</form>
<FORM METHOD="post" ACTION="sys-add3.php" name="addHosp" onSubmit = "return
chkSysAdd();">
<center>
<table width=80% bgcolor=#BBDDFF border=1 bordercolor= #FFFFFFE cellspacing=0 cellpadding=2
style="font-family: Verdana; font-size: 12px; text-indent: 15px" rules=none>
<!-- <tr>
<td>Hospital Code:&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;</td>
<td><INPUT TYPE="text" NAME="HCode" size="20"></td></tr> -->

```







```

        // checks if street corner is existing already
        $check_sql1 = mysql_query("SELECT * FROM streetlocation WHERE Street1 = '$Street1' AND Street2 =
'$Street2'");
        if (@mysql_num_rows($check_sql1) != 0 )
        {
            echo("<CENTER><br>Street corner already existing.<BR><A href = sys-add-loc.php onClick
= 'history.go(-1)'>Back</A></CENTER>");
            displayFooter();
            exit;
        }
        // checks if street corner is existing already, with Streets 1 and 2 interchanged
        $check_sql1 = mysql_query("SELECT * FROM streetlocation WHERE Street1 = '$Street2' AND Street2 =
'$Street1'");
        if (@mysql_num_rows($check_sql1) != 0 )
        {
            echo("<CENTER><br>Street corner already existing.<BR><A href = sys-add-loc.php onClick
= 'history.go(-1)'>Back</A></CENTER>");
            displayFooter();
            exit;
        }
        echo "<br><br>Street Corner does not exist yet.";
        echo "<br><br>You will be directed to the map page in a few seconds for the location coordinates...";
        // save entered values
        session_register("City", "Street1", "Street2");
        // redirect to map page for the coordinates
?>
        <HTML><HEAD><META http-equiv = "Refresh" content = "5;URL = ../sysad/sys-add-
loc2.php"></HEAD></HTML>
<?
    }
displayFooter();
?>
<?
function getCityList()
{
    // function for getting available list of cities from the database
    $get_cities = mysql_query("SELECT DISTINCT City FROM streetlocation");
    for($i = 0; $i < mysql_num_rows($get_cities); $i++)
    {
        $data = mysql_fetch_array($get_cities);
        if (!empty($data["City"]))
            echo "<option value = \"$.data[\"City\"]\">\".data[\"City\"]\"</option>";
    }
}
function getStreetList($streetNum)
{
    // function for getting available list of streets from the database
    $get_streets = mysql_query("SELECT DISTINCT $streetNum FROM streetlocation ORDER BY
$streetNum");
    for($i = 0; $i < mysql_num_rows($get_streets); $i++)
    {
        $data = mysql_fetch_array($get_streets);
        if (!empty($data[$streetNum]))
            echo "<option value = \"$.data[\"$streetNum\"]\">\".data[\"$streetNum\"]\"</option>";
    }
    if($streetNum == "Street1")
        echo "<option value = 'Others1'>Others</option>";
    else
        echo "<option value = 'Others2'>Others</option>";
}
function displayFooter()
{
?>

<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM.<a
href="mailto:nhsis.webmaster@yahoo.com">contact us.</a></font></center>
</font><br>
</td><br>
</font>
</table>
</center>
</body>
</html>
<?
}

```

```

?>
// sys-addloc1.php
<?
    require "check_sysad.php";
    require "../header/sys_admin.php";
?>
<script language="JavaScript1.2">
var zoomFactor = 3 //Enter factor (1=100%)
var ImgArray = new Array("../images/metromanila0_map.gif", "../images/metromanila1_map.gif",
"../images/metromanila2_map.gif", "../images/metromanila3_map.gif", "../images/metromanila4_map.gif",
"../images/metromanila5_map.gif");

function zoom(state)
{
    if(state == 'in' && zoomFactor < 5)
    {
        zoomFactor++;
        //document.images.metromanila.src = ImgArray[zoomFactor];
        //document.images.metromanila.style.useMap = "map1";
        changeImg(zoomFactor-1, zoomFactor);
    }
    if(state == 'restore')
    {
        old = zoomFactor;
        zoomFactor = 3;
        changeImg(old, zoomFactor);
    }
    if(state == 'out' && zoomFactor > 1)
    {
        zoomFactor--;
        //document.images.metromanila.src = ImgArray[zoomFactor];
        changeImg(zoomFactor+1, zoomFactor);
    }
    return;
}
function changeImg(id_1, id_2)
{
    obj1 = document.getElementById(id_1);
    obj2 = document.getElementById(id_2);
    if(obj1.style.display != "none" )
        obj1.style.display = "none"; // set previous object to invisible mode
    obj2.style.display = "inline"; // set new object to visible mode
}
</script>

<p align="center" class="title">Registration Page</p>
<center>
<table border=0 bgcolor=white>
<tr>
    <td>
        <div style="background-color:#FFFFCC"><b>Map Control</b></div><br>
        <div style="background-color:#FFFFFF">
        <a href="#" onClick="zoom('in')">Zoom In</a> |
        <a href="#" onClick="zoom('restore')">Normal</a> |
        <a href="#" onClick="zoom('out')">Zoom Out</a>
        </div>
    </td>
</tr>
</table>
<table border=0>
<tr>
    <td align=center>
        <map name="map1">
        <area href="sys-add-loc2.php?step1X=0&step1Y=1" shape="polygon" coords="93, 236, 108,
234, 133, 218, 145, 198, 107, 169, 108, 159, 82, 155, 79, 148, 72, 149, 66, 156, 57, 156, 53, 163, 61, 183, 52, 184, 68,
212">
        </map>
        <map name="map2">
        <area href="sys-add-loc2.php?step1X=0&step1Y=1" shape="polygon" coords="122, 317, 144,
314, 155, 305, 179, 291, 183, 278, 195, 267, 141, 226, 142, 213, 95, 213, 86, 214, 74, 214, 69, 223, 80, 248, 70, 247,
92, 284, 122, 312, 123, 313">
        </map>
        <map name="map3">

```

```
        <area href="sys-add-loc2.php?step1X=0&step1Y=1" shape="polygon" coords="92, 268, 121,
273, 126, 260, 137, 266, 160, 265, 167, 267, 176, 267, 177, 286, 244, 334, 242, 339, 230, 350, 226, 361, 174, 394, 156,
392, 117, 354, 86, 308, 102, 309, 87, 275">
```

```
    </map>
    <map name="map4">
        <area href="sys-add-loc2.php?step1X=0&step1Y=1" shape="polygon" coords="212, 324, 206,
342, 291, 401, 294, 406, 277, 418, 271, 434, 211, 471, 190, 473, 185, 471, 144, 428, 103, 376, 122, 372, 106, 331, 113,
316, 139, 325, 150, 315, 162, 323, 184, 319, 195, 319">
```

```
    </map>
    <map name="map5">
        <area href="sys-add-loc2.php?step1X=0&step1Y=1" shape="polygon" coords="133, 367, 156,
377, 164, 352, 189, 375, 219, 371, 245, 377, 241, 397, 340, 471, 335, 480, 320, 489, 316, 509, 249, 550, 231, 553, 214,
547, 161, 498, 118, 438, 118, 434, 141, 435, 118, 388">
```

```
    
    
    
    
    
    </td>
```

```
</table>
```

```
<br><br><br><br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM.<a
href="mailto:nhsis.webmaster@yahoo.com">contact us.</a></font></center>
</font><br>
</td>
</font>
</table>
</center>
```

```
</body>
</html>
```

```
// sys-add-loc2.php
<?>
```

```
    require "check_sysad.php";
    require "../header/sys_admin.php";
    $step1X = 0; $step1Y = 1; // for Manila
```

```
?>
```

```
<script language="JavaScript1.2">
var zoomFactor = 3 //Enter factor (1=100%)
```

```
function zoom(state)
```

```
{
    if(state == 'in' && zoomFactor < 5)
    {
        zoomFactor++;
        changeImg(zoomFactor-1, zoomFactor);
    }
    if(state == 'restore')
    {
        old = zoomFactor;
        zoomFactor = 3;
        changeImg(old, zoomFactor);
    }

    if(state == 'out' && zoomFactor > 1)
    {
        zoomFactor--;
        changeImg(zoomFactor+1, zoomFactor);
    }
    return;
}
```

```
function changeImg(id_1, id_2)
```

```
{
    obj1 = document.getElementById(id_1);
    obj2 = document.getElementById(id_2);
    if(obj1.style.display != "none" )
```















```

    }
    if($X >= 1670 && $X <= 2504 && $Y >= 2310 && $Y <= 3465)
    {
        $pic = "manila3.gif";
        $step2X = 2;
        $step2Y = 0;
    }
    if($X >= 0 && $X <= 834 && $Y >= 3466 && $Y <= 4621)
    {
        $pic = "manila4.gif";
        $step2X = 0;
        $step2Y = 1;
    }
    if($X >= 835 && $X <= 1669 && $Y >= 3466 && $Y <= 4621)
    {
        $pic = "manila5.gif";
        $step2X = 1;
        $step2Y = 1;
    }
    if($X >= 1670 && $X <= 2504 && $Y >= 3466 && $Y <= 4621)
    {
        $pic = "manila6.gif";
        $step2X = 2;
        $step2Y = 1;
    }
}
?>
<div id="theOne" style="position:relative;height:100px;width:300px;">
<?
    echo"<img border=1 src='../images/'.$pic.'" onClick='hereIam();'>";
?>
</div>
<FORM name = temp>
<input type = hidden name = X1 value = <? echo $X ?>>
<input type = hidden name = Y1 value = <? echo $Y ?>>
</FORM>
<br><br>
<center><b><A href = sys-update-loc.php>Back to Update Hospital</A></b></center>
<script language = JavaScript src = ../form.js></script>
<script language = "JavaScript" src = "../showTextBox.js"></script>
    <form name="hidden" method="post" action="sys-add3.php">
        <input type="hidden" name="step1X" value="<?echo $step1X; ?>">
        <input type="hidden" name="step1Y" value="<?echo $step1Y; ?>">
        <input type="hidden" name="step2X" value="<?echo $step2X; ?>">
        <input type="hidden" name="step2Y" value="<?echo $step2Y; ?>">
    </form>
<script language = "JavaScript">

getMapCoords(document.temp.X1.value, document.temp.Y1.value);
function getMapCoords(XCoor, YCoor)
{
    s1X = document.hidden.step1X.value;
    s1Y = document.hidden.step1Y.value;
    s2X = document.hidden.step2X.value;
    s2Y = document.hidden.step2Y.value;

    document.all.X1.value = XCoor - (s1X*stepsize1_X+s2X*stepsize2_X);
    document.all.Y1.value = YCoor - (s1Y*stepsize1_Y+s2Y*stepsize2_Y);
}

var the_x = document.temp.X1.value;
var the_y = document.temp.Y1.value;
var jg_doc = new jsGraphics("theOne");

// draws marker
jg_doc.clear();
jg_doc.setStroke(2);
jg_doc.setColor("#FF0066"); // orange
jg_doc.fillEllipse(parseInt(the_x), parseInt(the_y), 17, 17); // co-ordinates related to the document
jg_doc.paint(); // draws, in this case, directly into the document
</script>

    <FORM METHOD="post" ACTION="sys-edit2.php" NAME="editLoc">
    <input type="hidden" name="pic" value="<?echo $pic; ?>">
    <center>
    <table width=60% bgcolor=#BDDDF border=1 bordercolor=#FFFEE cellpadding=2 cellspacing=2
style="font-family: Verdana; font-size: 12px; text-indent: 15px" rules=none>

```





```

                $step2Y = 1;
            }
            if($X >= 1670 && $X <= 2504 && $Y >= 3466 && $Y <= 4621)
            {
                $pic = "manila6.gif";
                $step2X = 2;
                $step2Y = 1;
            }
?>
<div id="theOne" style="position:relative;height:100px;width:300px;">
<?
    echo"<img border=1 src='../images/'.$pic.'" onClick='hereIam();'>";
?>
</div>
<FORM name = temp>
<input type = hidden name = X1 value = <? echo $X ?>>
<input type = hidden name = Y1 value = <? echo $Y ?>>
</FORM>

<br><br>
<center><b><A href = sys-update-loc.php onClick = 'history.go(-1)'>Back to Update Street Location</A></b></center>
<script language = JavaScript src = ../form.js></script>
<script language = "JavaScript" src = "../showTextBox.js"></script>

    <form name="hidden" method="post" action="sys-add3.php">
        <input type="hidden" name="step1X" value="<?echo $step1X; ?>">
        <input type="hidden" name="step1Y" value="<?echo $step1Y; ?>">
        <input type="hidden" name="step2X" value="<?echo $step2X; ?>">
        <input type="hidden" name="step2Y" value="<?echo $step2Y; ?>">
    </form>
<script language = "JavaScript">

getMapCoords(document.temp.X1.value, document.temp.Y1.value);
function getMapCoords(XCoord, YCoord)
{
    s1X = document.hidden.step1X.value;
    s1Y = document.hidden.step1Y.value;
    s2X = document.hidden.step2X.value;
    s2Y = document.hidden.step2Y.value;

    document.all.X1.value = XCoord - (s1X*stepsize1_X+s2X*stepsize2_X);
    document.all.Y1.value = YCoord - (s1Y*stepsize1_Y+s2Y*stepsize2_Y);
}

var the_x = document.temp.X1.value;
var the_y = document.temp.Y1.value;
var jg_doc = new jsGraphics("theOne");

// draws marker
jg_doc.clear();
jg_doc.setStroke(2);
jg_doc.setColor("#FF0066"); // orange
jg_doc.fillEllipse(parseInt(the_x), parseInt(the_y), 17, 17); // co-ordinates related to the document
jg_doc.paint(); // draws, in this case, directly into the document

</script>
<?
    $query = mysql_query("SELECT * FROM streetlocation WHERE x = $X AND y = $Y");
    $loc = mysql_fetch_array($query);
?>

    <FORM METHOD="post" ACTION="sys-edit-loc.php" NAME="editLoc">
    <input type="hidden" name="pic" value="<?echo $pic; ?>">
    <input type="hidden" name="OldSt1" value='<?echo $loc["Street1"]; ?>'>
    <input type="hidden" name="OldSt2" value='<?echo $loc["Street2"]; ?>'>
    <center>
    <table width=80% bgcolor=#BDDDFD border=1 bordercolor=#FFFFFF cellpadding=2
style="font-family: Verdana; font-size: 12px; text-indent: 15px" rules=none>
        <tr>
            <td>
                <td>* Street 1:&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;</td>
                <td><SELECT name = "Street1a">
                    <? @getStreetList("Street1", $loc["Street1"]); ?>
                    </SELECT>
                </td></tr>
            <tr>
                <td>* Street 2:&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;</td>
                <td><SELECT name = "Street2a">

```



```

<?
function getCityList()
{
    // function for getting available list of cities from the database
    $get_cities = mysql_query("SELECT DISTINCT City FROM streetlocation");
    for($i = 0; $i < mysql_num_rows($get_cities); $i++)
    {
        $data = mysql_fetch_array($get_cities);
        if (!empty($data["City"]))
            echo "<option value = \"$.data[\"City\"]\">\"$.data[\"City\"]\"</option>";
    }
}
function getStreetList($streetNum, $streetValue)
{
    // function for getting available list of streets from the database
    $get_streets = mysql_query("SELECT DISTINCT $streetNum FROM streetlocation ORDER BY
$streetNum");
    for($i = 0; $i < mysql_num_rows($get_streets); $i++)
    {
        $data = mysql_fetch_array($get_streets);
        if($data[$streetNum] == $streetValue)
            echo "<option value = \"$.data[$streetNum]\" SELECTED>";
        $data[$streetNum]."</option>";
        if (!empty($data[$streetNum]))
            echo "<option value = \"$.data[$streetNum]\">\"$.data[$streetNum]\"</option>";
    }
}
function displayFooter()
{
}
?>

<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM.<a
href="mailto:nhsis.webmaster@yahoo.com">contact us.</a></font></center>
</font><br>
</td>
</font>
</table>
</center>
</body>
</html>

<?
}

?>

// sys-update1.php
<?
require "../header/sys_admin.php";
?>

<p align="center" class="title"><b>Hospital Lists</b></p>
<center><br><br><br>
<a href="sys-update1.php?id1=a&id2=b&id3=c" class="alpha">A-C</A>&nbsp;
<a href="sys-update1.php?id1=d&id2=e&id3=f" class="alpha">D-F</A>&nbsp;
<a href="sys-update1.php?id1=g&id2=h&id3=i" class="alpha">G-I</A>&nbsp;
<a href="sys-update1.php?id1=j&id2=k&id3=l" class="alpha">J-L</A>&nbsp;
<a href="sys-update1.php?id1=m&id2=n&id3=o" class="alpha">M-O</A>&nbsp;
<a href="sys-update1.php?id1=p&id2=q&id3=r" class="alpha">P-R</A>&nbsp;
<a href="sys-update1.php?id1=s&id2=t&id3=u" class="alpha">S-U</A>&nbsp;
<a href="sys-update1.php?id1=v&id2=w&id3=x" class="alpha">V-X</A>&nbsp;
<a href="sys-update1.php?id1=y&id2=z" class="alpha">Y-Z</A>&nbsp;
<br><br>

<?
include "../connect.php";
if (!empty($id1))
{
    if(empty($id3))
        $id3 = $id2;
        $query = mysql_query("SELECT * FROM hospital WHERE HName LIKE '$id1%' OR HName
LIKE '$id2%' OR HName LIKE '$id3%' ORDER BY HCode");

        if (@mysql_num_rows($query) < 1)
            echo ("<br><br>0 results.");
        else

```

```

    {
?>
        <br>
        <? echo "<H3>[\".$sid1.\"-\".$sid3.\"]</H3>"; ?>
        <TABLE border='1' cellspacing='3' cellpadding=4 bordercolor=#FFFFFFE width=90%>
        <TR><TH><font size='2'>HCode</font></TH>
        <TH><font size='2'>HName</font></TH>
        <TH><font size='2'>X-Coor</font></TH>
        <TH><font size='2'>Y-Coor</font></TH>
        <TH><font size='2'>Edit Hospital</font></TH>
        <TH><font size='2'>Delete Hospital</font></TH></TR>
<?
        for ($i = 0;$i < mysql_num_rows($query);$i++)
        {
            $data = mysql_fetch_array($query);

            echo "<TR bgcolor=white>";
            echo "<TD><center><font size='2'>\".$data[\"HCode\"].\"</font></center></TD>";
            echo "<TD width=25%><center><font size='2'>";
            $data[\"HName\"].\"</font></center></TD>";
            echo "<TD><center><font size='2'>\".$data[\"X\"].\"</font></center></TD>";
            echo "<TD><center><font size='2'>\".$data[\"Y\"].\"</font></center></TD>";
            echo "<TD><center><font size='2'><a href='sys-edit.php?HCode="
            $data[\"HCode\"].\"'>Edit Hospital</a></font></center></TD>";
            echo "<TD><center><font size='2'><a href='sys-del1.php?HCode="
            $data[\"HCode\"].\"'>Delete Hospital</a></font></center></TD>";
            echo "</TR>";
        }
        echo "</TABLE>";
    }
}
?>
<br><br> <br><br><br><br><br><br><br><br><br><br><br><br><br><br>
<center><font face="Verdana" size="1">copyright2004. UPM. <a href="mailto:nhsis.webmaster@yahoo.com"> contact
us</a></font></center>
</font>
<br>
</td>
</font>
</table>
</center>
</body>
</html>

// sys-update-loc.php
<?
    require "check_sysad.php";
    include "../connect.php";
    require "../header/sys_admin.php";
?>
<center>
<script type="text/javascript" src = "../wz_jsgraphics.js"></script>
<script type="text/javascript" src = "../showTextBox.js"></script>
<p align="center" class="title">Update Street Location</p>
<?php
if (empty($submit))
{
?>
    <FORM METHOD="post" ACTION="sys-update-loc.php" NAME="addLoc";>
    <input type="hidden" name="pic" value="<?echo $pic; ?>">
    <center>
    <table width=50% bgcolor=#BDDDFD border=1 bordercolor=#FFFFFFE cellspacing=0 cellpadding=2 style="font-
family: Verdana; font-size: 12px; text-indent: 15px" rules=none>
    <tr bgcolor = "white"><td colspan=2><center><b>Choose Street1 - Street2 Combination :
</b></center></td>
    <tr>
        <td>Street 1:&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;</td>
        <td><SELECT name = "Street1">
            <? @getStreetList("Street1"); ?>
            </SELECT>
        </td></tr>
    <tr>
        <td>Street 2:&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;</td>
        <td><SELECT name = "Street2">
            <? @getStreetList("Street2"); ?>
            </SELECT>
        </td></tr>
    </table>
    </center>
    </body>
    </html>

```





```

else
    echo "<option value = 'Others2'>Others</option>";
}
function displayFooter()
{
?> <br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>
    <center><font face="Verdana" size="1">copyright2004. UPM.<a
href="mailto:nhsis.webmaster@yahoo.com">contact us.</a></font></center>
    </font><br>
    </td>
    </font>
    </table>
    </center>
    </body>
    </html><?
}??>

```

## ACKNOWLEDGMENT

Four long years of struggle in college life, had never been too easy for me. Indeed, i have had personally discovered that college is far different from high school. I had experienced myself the long term pain and sacrifices you'll get entering a course you aren't much interested about; much more if its been forced for you take up. I have had cried a number of times – be it emotional grief, major school stress and toxicity, hopeless struggles and a lot more. I may have been weak and overly pressured by the past circumstances. But in spite of it all, I would never trade those challenges I've had, because no matter how closely horrendous college life has been for me with regards to all the tussles for my acads, I know I have definitely enjoyed those great years! All the fun, joys, laughter, sharings, boding sessions.. my learning experiences will surely linger in me.

My SP for one is such an accomplishment for me. And my warmest thanks for this chance to extend my gratitude and appreciation all those people who in one way or another have had been part of my being, especially those who contributed a lot in making this SP possible...

Firstly, I'd like to offer this SP to my ultimate strength and Savior, my dear God. Lord God, thanks so much for sharing up your strength in me, for giving me all the hope behind those helpless moments, for enlightening my heart and my mind and for never letting me down. Thank you Lord for allowing me to lift up all my struggles and everything that happened to be. Without you My God, I'm sure I wouldn't get this far. ☺

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"We cannot tell the precise moment when friendship is formed. As in filling a vessel drop by drop, there's at last a drop which makes it run over; so in a series of kindnesses there's at last one which makes the heart run over"

Lastly, thanks to this prestige institution. Indeed, being an "Iska" is really something to be proud of.

It really feels great whenever you got to accomplish something. My stay in UP is really worth treasuring. I know I may not have succeeded academically, I may have failed a number of times but I really am grateful for going this far. With all my thanks to HIM, I am successful in my own little way ..for "success

in not totally measured by what the eyes see, for it is by the heart that one can see rightly, for what is essential is invisible to the eyes.

I wish everybody the best of luck and more blessing from Him. ☺

Meybs

(saying "People don't care how much you know, until they know how much you care")