

# AN ONLINE FAMILY HEALTH GUIDE SYSTEM

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## Abstract

***Nowadays electronics- health is taking place on the Internet. This new tool will change what we do traditionally. In this technological era, old methods may not fit the new world. With the rapid growth of internet, information technology (IT) has already been essential for users. Getting medical knowledge via internet is an opportunity to succeed our lives. This paper will discuss related topics about how to deal with family health guide on the internet successfully such as knowing professional knowledge of nutrition, getting medical information, taking life styles and the posting of questions. It is composed of software section only ASP.NET Version 2.0 web programming and database SQL programming. Microsoft.Net platform provides all of the tools and technologies that are needed to built distributed web application. In this way, staff can easily manage different kind of information in the database of this health center. With the achievement of this paper, it is easy to understand how to create online family health guide service and other online services.***

**Keyword: World Wide Web, e-Health, ASP.NET**

## 1. INTRODUCTION

The Internet is a widely accessible source of medical information to patients. Today, a large number of patients already use the Internet to retrieve health-related information, to interact with healthcare providers, and even to order pharmaceutical products. In this paper, the basic assumption is that information technology is a tool to help the management of health information. Therefore, the purpose of this paper will be on where and how information technology can contribute to the improvement of health care. A patient who is well-educated about his or her disease, prognosis, and treatment choices is likely to work better

with the medical system and have greater overall satisfaction with care than a patient without disease-specific knowledge.

View from the point of health, health guide is the study of how the patients organize themselves to create their lives successfully and run healthcare organizations. Indeed, IT offers healthcare powerful tools that can be used to gather, process, analyze, store and communicate health data. So, health guide system is located at the intersection of information technology and the different disciplines of medicine and health care. With such a pivotal role, it is likely that in the next century, online health guide system will become as fundamental to the practice of medical world. That's why; the system has been popular with the requirements of health strategies.

## 2. AIM AND OBJECTIVES

This system intends to implement With the advent of the new technologies, the users can get medical knowledge by clicking the web pages on the internet. Moreover, the objectives of this paper include the following keys.

- To know current health state and current dietary patterns.
- To recognize particular needs and circumstances.
- To save time and money.
- To use what medication are taken
- To obtain health goals
- To design the important role of health service on the World Wide Web.

## 3. BACKGROUND THEORY

### 3.1. Background Methodology of Database

At present, millions of databases are being used in various fields of real world applications. The Web server contacts the database to get information is needed. A

technology called ActiveX Data Objects.NET (ADO.NET) is used to connect the database. The ASP.NET Engine then gets the requested file, and if necessary contacts the database through ADO.NET for the required file and then the information is sent back to the Client's browser. In ADO.NET [5], there are two core objects that allow us to work with data initially: the DataReader and the DataSet. Namespace in .NET is a set of classes that can be used while creating an application. The .NET Framework has about 3,500 classes which can be accessed through a namespace. Therefore first must be import necessary namespaces. After all the necessary namespaces are imported, a connection to the database is made. Listed below is the common connection object methods could work with:

- Open - Opens the connection to database
- Close - Closes the database connection
- Dispose - Releases the resources on the connection object. Used to force garbage collecting, ensuring no resources are being held after our connection is used.
- State - what type of connection state the object is in, often used to check whether the connection is still using any resources.

Once the connection is made, in order to access the data in a database ADO.NET relies on two components: DataSet and Data Provider. These are explained below.

### 3.2. Dataset

The dataset can be considered as a local copy of the relevant portions of the database. The DataSet resides in memory and the data in it can be manipulated and updated independent of the database. If necessary, changes made to the dataset can be applied to the central database. The data in DataSet can be loaded from any valid data source such as a text file, an XML database, Microsoft SQL server database, an Oracle database or MySQL database.

The Data Provider is responsible for providing and maintaining the connection to the database. A DataProvider is a set of related components that work together to provide data in an efficient and performance driven manner. Each DataProvider consists of the following component classes:

- The Connection object which provides a connection to the database

- The Command object which is used to execute a command
- The DataReader object which provides a read only, connected recordset
- The DataAdapter object which populates a disconnected DataSet with data and performs the update.

The Connection object creates the connection to the database. Microsoft Visual Studio .NET provides two types of Connection classes: the SqlConnection object and the OleDbConnection object. The Connection object contains all of the information required to open a connection to the database.

The Command object is represented by two corresponding classes: SqlCommand and OleDbCommand. The Command objects can be used to execute stored procedures on the database, SQL commands, or return complete tables directly. Command objects provide three methods that are used to execute commands on the database:

- ExecuteNonQuery: Executes commands that have no return values such as INSERT, UPDATE or DELETE.
- ExecuteScalar: Returns a single value from a database query
- ExecuteReader: Returns a result set by way of a DataReader object

The DataReader object provides a read-only, connected stream recordset from a database. DataReader objects cannot be directly instantiated. Rather, the DataReader is returned as the result of the Command object's ExecuteReader method. The SqlCommand.ExecuteReader method returns a SqlDataReader object, and the OleDbCommand.ExecuteReader method returns an OleDbDataReader object. The DataReader can provide rows of data directly to application logic when one does not need to keep the data cached in memory.

The DataAdapter is the class at the core of ADO .NET's disconnected data access. The DataAdapter provides four properties that represent database commands:

- SelectCommand
- InsertCommand
- DeleteCommand
- UpdateCommand

When the Update method is called, changes in the DataSet are copied back to the database and the appropriate InsertCommand, DeleteCommand, or UpdateCommand is executed. ADO.NET follows the below process, Fig 1, to connect to the database and retrieve data to the application [6].

- When an ASP.NET application needs to access the database, it submits an appropriate request to ADO.NET through a DataAdapter object, which in turn sends a command to the Connection object.
- The Connection object establishes a connection to the database and submits the request sent by DataAdapter.
- The Connection object connects to the database through a Provider. The Provider acts as a translator between the Connection object and the database. It translates the request for data to database's language and brings back the data, if needed.
- The Provider sends the data back to the DataAdapter through the Connection object and DataAdapter places the data in a DataSet object residing in application's memory.

Instead of storing data in a DataSet, a DataReader can be used to retrieve data from the database. Results are returned in a resultset which is stored in the network buffer on the client until a request is made to Read method of the DataReader. Using the DataReader can increase the application performance by retrieving as soon as the data is available, rather than waiting for the entire results of the query to be returned.

A DataSet can be used to interact with data dynamically such as binding to a Web Form, cache locally in the application, provide hierarchical XML view of the data, etc. If such functionalities are not required by the application, a DataReader can be used to improve the performance of the application. By using a DataReader, the memory can be saved that is used by the DataSet, as well as the processing required to fill the contents of a DataSet.

When a DataReader is used, a DataAdapter is not required to send the data to the application. In this system, DataReader is used to read the data and Command object called ExecuteNonQuery is used to write into the database.

## 4. SYSTEM DESIGN AND IMPLEMENTATION

This section presents the architecture that can build an online family health guide system using ASP.NET Version 2.0 web programming and database SQL programming to find the discussion result for health care.

### 4.1. The Proposed Online Family Health Guide System

This paper will use the most advanced server side technology, Microsoft .NET Framework, which is running on the Windows operating system built with IIS (Internet Information Services) and Microsoft SQL Server, which is used as the Database server for the persistence layer to develop a dynamic web server. The system of this paper is based on the three-tiered client/server architecture. ASP.NET is the right tool for creating rich and dynamic Web sites. It provides a new programming model and infrastructure that provides a component based, extensible and easy-to-use way to build, deploy, and run web applications that target any browser. Visual Basic .NET will be used as the coding language in this paper. This system creates most web pages using HTML (Hypertext Markup Language) and Cascading Style Sheet (CSS). Web pages are displayed with eye-flashing graphic style and it has flash animation.

Although there are numerous methods of storing information, the relational database model has grown to be recognized as the most efficient data storage model. So this system uses relational database. Relational databases are based on the need to efficiently organize and store data. Data in a relational database are organized as entities and stored in tables. Each table consists of attributes, which result in the columns that make up a table. A table is known as a file in real world.

### 4.2. Architecture of the System

The system is shown in figure 1. In this system include dataset, DataAdapter creates dataset, DataAdapter sends commands, connection, provider and database process are also include.

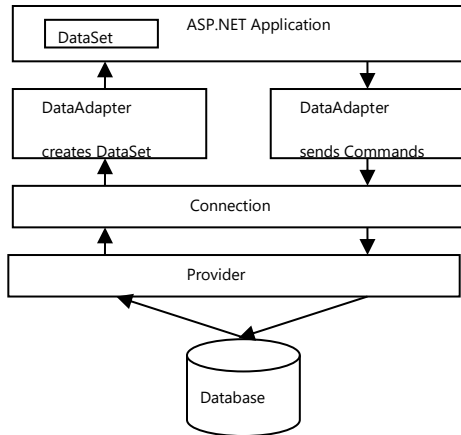


Figure.1 ADO.NET Architecture



Figure .5 Women Health Page

In 'Search Page' as shown in Fig.4, any user can search any medicine product by typing with drug name, company name and disease condition. If the users know the condition for their health, it is important to search that type easily. When the users request, the system connects to the database server and retrieve it to them. And the system allows the users to locate a property disease including infection disease, malaria disease, tuberculosis disease and skin infection disease. The medical information related to the property can be accessed or modified by point and click or intuitive drop down menus.

The Fig.6 shows that the administrator logs in after starting a system. The Administrator is only one authorized person to update and delete the information in the system. He must have a user name and password. If detection is valid, the Administrator Page appears. If user name and password are invalid, the error message will appear. So security is the very important. The administrator page consists of four categories such as Admin Pharmacological Category, Admin Condition, Admin Drug, Admin Article.



Figure. 4 Search Page

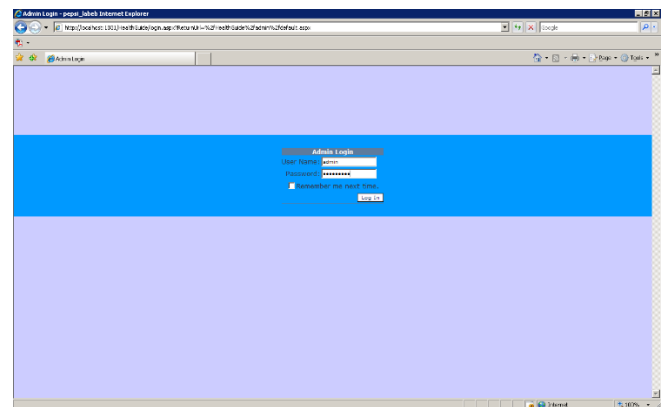


Figure .6 Admin Log In Page

The web page in Fig.5 is 'Women Health' displaying general health information about women. Moreover, the static pages including fitness and nutrition, breast cancer, water retention and menopause are described in this web page.

The web page in Fig.7 is the design of Admin Drug Page. In Admin Drug Page.aspx.vb, the administrator adds drug's name, brand's name, presentation, description, side effect and company. Moreover he can get and delete all of these features. It allows the users to access

the required information through the .NET search engine.



Figure 7 Admin Drug Page

### 4.3. Design of the System and Implementation

The system consists of two types of user: 'User' part and 'Admin' part. If the user is 'Admin' user, the system asks the password fi and checks it. If the password is true, the user can insert, delete or update patient's information; and can calculate the accuracy of the classifier. If the user is 'User', the system asks his symptoms, for health care.

In Fig. 2 illustrates the block diagram of the Web site. There are many web pages in this system. These pages are systematically built to implement that service. It is composed of all other pages in the site. It is necessary to be simple and clear for the users. And it is also essential for the users to use the instruction more easily than others.

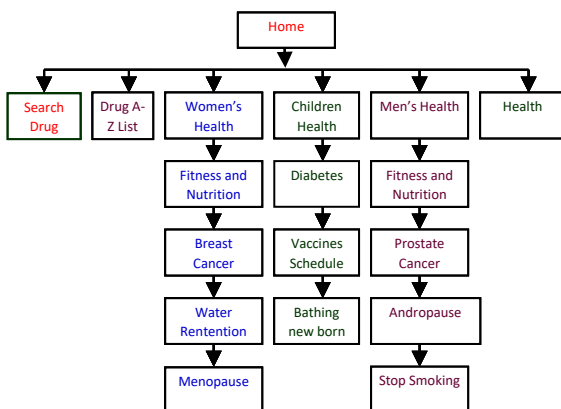


Figure 2 Block diagram of family health guide system

In Fig. 3, the Administration of the system is illustrated. There is the only one authorized administrator to update, add and delete four functions including drug, disease name, disease condition and article. The administrator who is authorized in that service has password detection to valid.

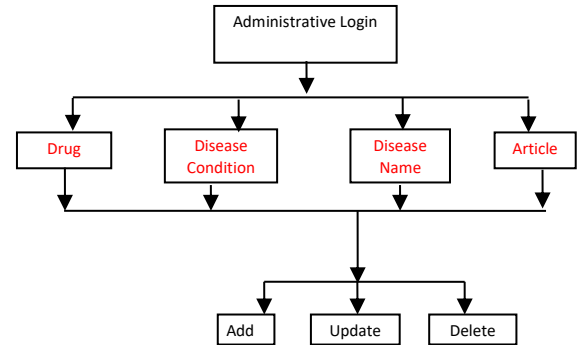


Figure 3 Administration of the System

## 5.CONCLUSION

This software is created as a health guide service system to easily use or to know medical knowledge for families. ASP.NET programming language can be used by connecting to the SQL database server and Web server to develop this software. Additionally, the suitable database system has been described briefly. In this service, the users are easy to search any medicine product and read the source of information about the medical problems from the Web site of that service by accessing the Internet. From the view of administrator, it is easy to check and update the records of those medical products by using this software. Moreover, the administrator can add any new product and information to the database of that service by using this software. The information may inform individuals' lifestyle choices, support a clinician's decision-making, allow to accurate planning decisions and understand more effectively the healthcare system.

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