# A TOOL FOR HEALTH CARE SYSTEM

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### Abstract

SMS (Short Message Service) Autoreply systems are widely deployed on the internet. SMS service provides variety of information to be sent to the users. The wireless devices such as mobile provide mobility to the users and services such as the teleservices. This provides a very big advantage for the user to access any information anywhere without any delay. Calorie is the unit of measurement that tells us how much energy our body derives from a particular food item. The food that we consume during the day includes a variety of nutrients and each nutrient provides different amounts of calories. Much health conscious people are constantly counting and keeping a track of their calorie intake. In this paper the proposed software that will send calorie information of food products from system acting as a server on the user cell phones like food alerts. It provides the users to get the calorie information of respective food item without any delay and helps them to decide further whether they can consume it. In this work the user will study the connectivity between cell phone and system and further study the sending and receiving of data from system to mobile and vise-versa through SMS.

Index terms: SMS, Calorie, Auto-replay systems, USB Cable, Client Software and Server Software.

## **1.0Introduction**

SMS service on Internet through Cell Phones. Short Message Service on cell phones provides users to communicate with each other by sending text messages to each other .The messages may further include pictures and also media information. This service is also useful in providing communication between the user cell phones and the internet servers that set up a client server architecture. It is not only possible to send and receive SMS from cell phone to cell phone, but SMS from a cell phone can be sent to a internet server that provides user to make request and access the information on the server and also the server can reply back by sending the requested information via SMS to the requesting cell phone. The connectivity for data transfer can be done using various media such as USB cables, Bluetooth technology etc. Client software is a program in a network making request to the server for acquiring specific information. Server software is a program on the internet that provides response to the user requests.

A server is a large machine that contains databases for providing required information to the user. A database is a collection of information of a particular organization or enterprise. Hence a large number of different databases are set up on the internet servers .Client software and the server communicate with each other by sending messages to each other or server information can be accessed by sending a URL to the server or by sending data through input elements on the form such as textbox. One form of sending input to the server is via SMS through a cell phone. The message sent by the user will be given as an input parameter to a program on the server. The server executes the program and obtains the necessary matching output value against the input sent by the user from the database and sends it as output to the requesting client. Client sends a request, Server maintains a database to answer the client requests and send appropriate reply. There exists a interface between the client and server for communication and data transfer.

#### 1.1 Review of Literature:



Mobile health care service for diabetes management unveiled By Dan Butcher April 27, 2009

Fig 1. Appointment reminders from mPro Care

Mobile Health Tech, a mobile healthcare service provider, has rolled out its first commercial trial of mPro Care at Clarkstown Medical Associates PC in New City, NY. MPro Care is the first twoway mobile diabetes solution that provides automated reminders and accepts readings using standard mobile phones on all major U.S. service providers. mPro Care was developed to help improve patient medication and treatment compliance for improved health care outcomes and reduced cost of care for patients with chronic conditions such as diabetes, coronary artery disease and hypertension, asthma and obesity. "This platform provides a rapid notification alert system with lots of capabilities for patients and their families, physicians and local authorities such as appointment confirmations and SMS reminders 24 hours. "This allows them to send and receive text messages from a Web-based console to a cell phone and handle multiple calls simultaneously.MHT is the healthcare division of Gold Mobile, a provider of mobile communications programs for businesses and agencies.



Fig 2. Mobile healthcare videos from mPro Care

## **2.0. OBJECTIVES OF THE SYSTEM**

The objective of the system is to make an addition to the applications of internet and mobile technology with Short Message Service that provide access to wide variety of information to the users from the Internet servers.

The proposed system is to provide calorie related information to the health conscious people who are constantly counting and keeping a track of their calorie intake, conveniently by means of SMS.

It is simple as making a call or using any other cell phone service keeping the users transparent from the working.

The objective is to design a interactive system where User has to provide the input by typing the name of the food item and send it to the server via a SMS, that in turn will search for the respective calorie value from the database on the server and send back output value to the requesting client as a SMS.

The proposed system enhances the performance of existing Health Care systems by adding its functionality and increasing the availability of Calorie related information to users.

## **3.0 SYSTEM ANALYSIS**

#### 3.1 Existing System

Health care systems are available that perform the workflow scheduling and communications for the hospital using SMS. It provides

- 1) Doctor update on appointment schedules and meetings.
- 2) Patient benefits such as, Fix appointment with the doctor, Get history of last 2 check-

up's, Get BP/ECG/Blood Sugar level in the last check-ups etc.

#### 3.2 Proposed System

The idea is to build an interactive health care tool for health conscious people to obtain calorie information of food products before consuming it. The tool that has been designed can be merged with the existing Health care systems to increase the availability of information from the Health care systems and use the internet technology to help the users obtain Health related information.

## **4.0. SYSTEM DESIGN**



#### 4.1 Data Flow Diagram/Use Case Diagram/Flow Diagram

Fig 4. Data Flow Diagram of "A Tool for Health Care System"

## **5.0. METHODOLOGY OF THE STUDY**

Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus it can be considered to be the most critical stage achieving a successful new system and in giving the user, confidence that the new system will work and be effective. Main modules:

1. Client Module:

Client module is the requesting module in the network that sends input request (SMS). Embedded SMS (Short message service) software on the user mobiles is the client software that sends a request SMS to a cell phone connected to a server via interface USB cable. The input received from the client is available on the input port. The information from the input port is stored in the client database.

Food item	Client Phone number	Date & Time

Fig 5. Format of client database.

2. Interface Module:

Interface module provides the connectivity between the client and the server. The input message received on the cell phone is forwarded to the system via the interface USB cable .The system and the cell phone are connected together and appropriate Multimedia software eg.Nokia PC Suite software for Nokia cell phones is installed that initializes port number between the system and the cell phone.

3. Server Module:

Server module performs the data processing to provide the required output to the user. It is a program that retrieves client input from the client database and searches for the appropriate value for the input from the server database and makes it available on the port as output. A Communication tool is defined in the program that provides connectivity between the port and the program.

Food item	Calorie value
Apple	50-60
Banana	50-60
Potato	80

#### Fig 6. Format of server database.

Working Steps:

1. Client types a request SMS on his/her cell phone and sends it to the server.

Eg. Name of foosd item whose calorie value is to be obtained.

- 2. The input sent by the user is available on the input port of the interface.
- 3. The program on server reads the client input value from the input port and stores it in

the client input database.

 Server side program fetches input from the client database and executes to search the

appropriate matching calorie value for the food item sent by the user from the server database.

- 5. The output obtained by the Calorie Search program is sent on the output port.
- 6. The output from the port is sent to the requesting client through the interface.
- 7. The output is available on the client cell phone.

## **6.0. CONCLUSION**

Health Care systems provide two-way SMS facility for users to access variety of health related information from the internet servers In this work it has been designed a tool that provides calorie information to the users. This tool can be merged or added in the existing Health care systems in future to increase the functionality of the Health care systems. It is an interactive Auto-reply system and made available on cell phones which are used nearly by every user today. This system enhances the applications of internet, SMS and cell phones making information available to the users conveniently and reducing much delay in making decisions. It is an attempt to provide a small contribution in the existing Health care Systems.

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