A Study on Acupressure Points Online Database

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Abstract: *Acupuncture points or acupressure points have been popularly used for thousands years for Chinese to cure various illness or pains. The method comes with less or no side effects, comparing the western medicine chemicals. With the new computer information technologies, the ancient Chinese healing tool could be very convenient for us to take care of ourselves at home or work. In this paper, we present our online database system for locating the acupressure points. A case study shows the details of the design and structure of the online system.*

Keywords: Acupressure points, databases, information systems, PHP/MySQL

1 Introduction

The vast applications of information systems have been developed very fast in the past decades. Typically, common information systems consist of people, procedures, data, software, and hardware that are integrated together in order to serve the objectives. Specifically computer-based information systems are corresponding networks of hardware/software that people and organizations use to collect, filter, process, create, and distribute. As computers grew in speed and capability, a number of general-purpose database systems emerged. Databases are designed to offer an organized mechanism for storing, managing, and fetching information in an efficient manner. In many cases, PHP and MySQL are used widely to create online databases that help us in need [1].

PHP is a general-purpose scripting language that is especially designed for Web development and can be embedded into HTML. It supports most of modern databases such as Informix, Oracle, and Sybase. It is open source software, meaning PHP is free to download and use. It can be used for both command-line scripting and client-side GUI applications. With PHP, embed dynamic Web design and programming become easy to handle. There is also unlimited control over the web server when using PHP. Whether you need to modify HTML on the fly, process a credit card, add user details to a database, or fetch information from a third-party website, you can do it all from within the same PHP files which the HTML itself is also located.

With more than ten million installations, MySQL database is one of the world's most popular database management systems for dynamic Web applications. It was developed in the mid 1990s and is now becoming a mature technology that powers wide ranges of Internet sites. MySQL is a popularly used not just because of its open source and free to use, but also its excellent performance, high reliability, and ease of use. Furthermore, it can even run on the most basic of hardware, and hardly puts a dent in system resources. So MySQL is highly scalable, meaning a

website using MySQL has the potential to grow [3]. In fact, in a comparison of several databases by *e*Week, MySQL and Oracle tied for both best performance and for greatest scalability.

With PHP/MySQL, we construct an online information system that allows the user to select an illness and/or uncomfortable body part, and then present all the related acupressure points (Figure 1) that cure the particular symptom or illness. Beside these points are links to the location of the point with an image as well as directions on how to massage the specific point. Also, when an administrator logs in with the correct password and username, the administrator has the option of adding a record to the database.

Acupressure and acupuncture share the same active points (also called trigger points). Over 5,000 years ago, the ancient Chinese developed this system of active points stimulation. These active points are located on imaginary lines called meridians. Accordingly, the points are referred to by the meridian they are located on and consecutive number of point on that meridian [3].

In the next section, we will present a case study that details the system design and structure, including the files, tables, and examples of usages. And then conclusions follow.

2 Case Study

The URL of the online system is
http://zwang.vwc.edu/~tasantos.

There are following nine PHP files to interact with the MySQL database.

Bladder (BL)	Large Intestine(LI)
1 BL1	51 LI4
2 BL2	52 LI10
3 BL7	53 LI11
4 BL10	54 LI15
5 BL13	55 LI20
6 BL23	Liver (LV)
7 BL25	56 LV2
8 BL27	57 LV3
9 BL28	58 LV8
10 BL29	
11 BL30	Lung (LU)
12 BL31	59 LU1
13 BL32	60 LU5
14 BL33	61 LU6
15 BL34	62 LU7
16 BL40	63 LU9
17 BL57	64 LU10
18 BL58	
19 BL60	Pericardium (PE)
Conception Vessel (CV)	65 PE3
20 CV4	66 PE6
21 CV6	67 PE7
22 CV12	Small Intestine(SI)
23 CV17	68 SI3
24 CV22	69 SI4
Gall Bladder (GB)	70 SI5
25 GB2	71 SI8
26 GB8	72 SI10
27 GB14	73 SI11
28 GB20	74 SI17
29 GB21	Spleen(SP)
30 GB30	75 SP3
31 GB34	76 SP4
32 GB39	77 SP6
33 GB40	78 SP8
34 GB41	79 SP9
Governing Vessel (GV)	80 SP10
35 GV4	81 SP12
36 GV14	82 SP16
37 GV16	Stomach(ST)
38 GV20	83 ST2
39 GV24.5	84 ST3
40 GV25	85 ST6
41 GV26	86 ST7
Heart (HE)	87 ST16
42 HE3	88 ST18
43 HE7	89 ST25
Kidney(KI)	90 ST35
44 KI1	91 ST36
45 KI2	92 ST40
46 KI3	93 ST44
47 KI5	Triple Warmer(TW)
48 KI6	94 TW3
49 KI7	95 TW4
50 KI27	96 TW5
	97 TW15
	98 TW17
	99 TW21

Figure 1 Acupressure points

- **directions.php** – lists all the directions on how to massage the point of concern.
- **header.php** – creates a banner and menu options on every page it is posted on.
- **index.php** – the homepage that contains project objectives and links to resources.
- **insert.php** – text boxes for the administrator to input another record.
- **login.php** – text boxes for administrator username and password.
- **login1.php** – lets administrator know if login was successful.
- **output.php** – adding new acupressure points to the points database. This file lets the administrator know if adding the record was successful. The INSERT INTO method is used
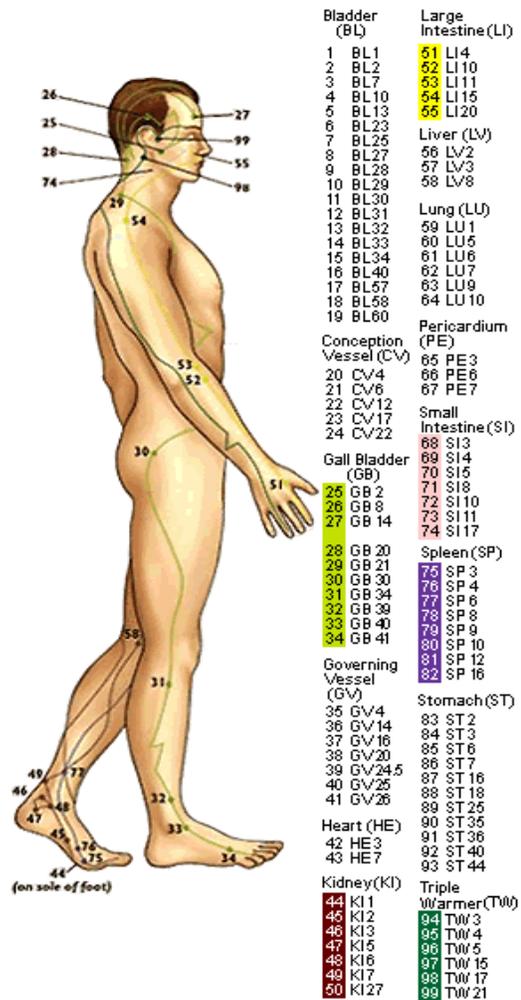
to obtain the information to create additional database entries. It is only available for the administrator to perform operations, and the code is as follows.

```php
<?php
    $server = 'localhost';
    $user = '******';
    $pass = '******';
    $mydb = '******';
    $connect = mysql_connect($server, $user, $pass);
    $table_name = 'points';
    Print "Table $table_name Data<br>";
    $query = "INSERT INTO $table_name VALUES '0', '$name', '$chinesename',
'$linkurl', '$headache', '$hangover', '$sorethroat', '$heartburn',
'$weightloss', '$depression', '$insomnia', '$memory_and_concentration',
'$hiccoughs', '$high_blood_pressure')";

    Print "The Query is <i>$query</i><br>";
    mysql_select_db($mydb);
    print '<br><font size="4" color="blue">';
    if (mysql_query($query, $connect))
    {  print "Insert into $mydb was successful!</font>";  }
  else
    {  print "Insert into $mydb failed!</font>";  }
mysql_close($connect);
```

- **search1.php** – this form selects the symptom(s) and searches for the corresponding points. See sample of search1.php code below:

```php
<?php include 'header.php'; ?>
<font face = papyrus>
<p>
<FORM ACTION=test.php METHOD=post>
<?php
    $menu = array('Headache', 'Hangover', 'Sore Throat', 'Heartburn',
'Weightloss', 'Depression', 'Insomnia', 'Memory & Concentration',
'Hiccoughs', 'High Blood Pressure');
    PRINT '<b>Please select your symptom(s):</b> <BR>';
    for($i=0; $i < count ($menu); $i++)
    {   echo "<INPUT type=checkbox name=symptom[] value=$i> menu[$i]";
        echo "<BR>;
    }
?>
<p>
<INPUT type=submit value="Submit">
<INPUT type=reset value="Reset"></font></FORM></BODY>
```

- **test.php** – the action code for search1.php; outputs the points, including Chinese name, and hyperlink of its location.

When this code is submitted, all of the tables that are present in my database will show. Figure 2 shows the structure and content of the *points* table.

Figure 2 The structure of Points table

When this code is typed in, a display is outputted of all the table's fields and their formats. Let's go through the design of the website and what the site has to offer to those who have a headache. When the user clicks on the link to go to the Acupressure Points System, the following page would then present itself.
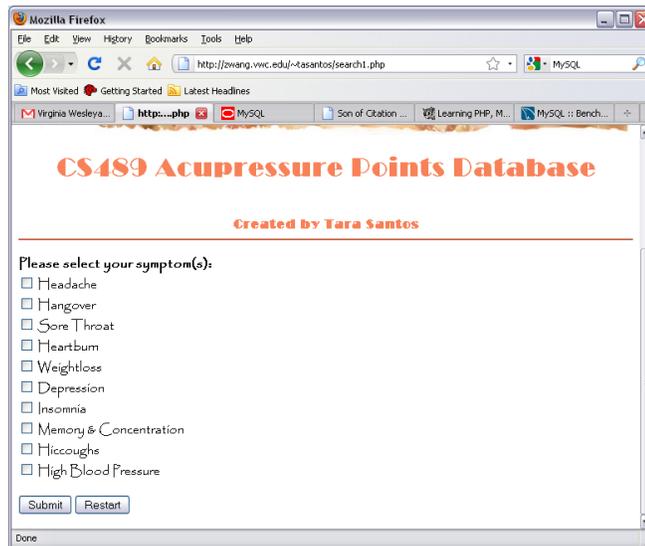

Figure 3 The layout of the online acupressure points database system

The *Figure 3* page is created in the *search1.php* file which simply lists the symptoms currently listed in the database. The symptoms the user may select include headache, hangover, sore throat, heartburn, weight loss, depression, insomnia, improve memory and concentration, hiccoughs, and high blood pressure. Figure 4 shows the MySQL data in which the table information is stored.
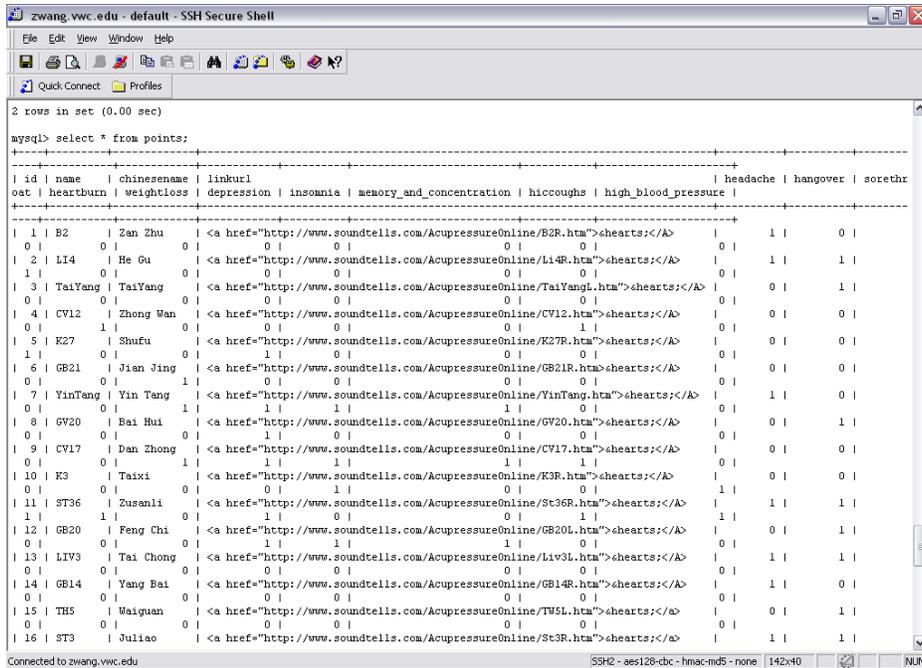
Figure 4 The content of *Points* table

If the user chooses headache as his or her symptom. The results would be shown in Figure 5.
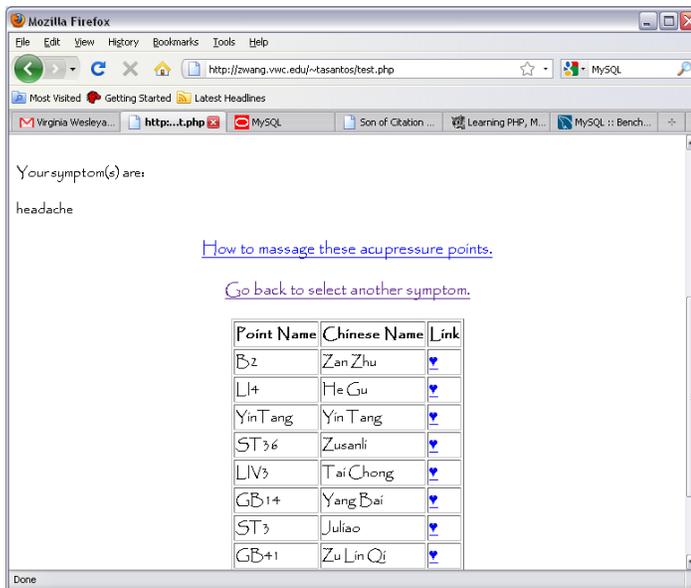

Figure 5 The display of output results

The page then outputs what the user selected as his or her symptom and lists all the related points to cure the headache. When the user clicks on the linking (a blue heart image), a Web page will appear that shows the points location, as Figure 6. This is the location of the first point B2 in Figure 5.
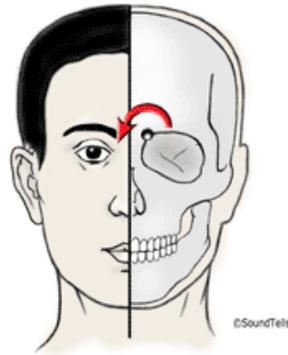
Figure 6 The exact acupressure point location

3   Conclusions

The paper presents the design and structure of online information system that is an easy-to-use and efficient way to help users to cure an individual's ailments naturally. The system was implemented by using a server side and open source scripting language and database PHP/MySQL. The results of system consist of several different acupressure points along with a linking Web page of the points' location, as well as detailed descriptions of how to massage these points. By using the system, the user can find ways to cure or at least relieve his/her specific symptom.

4   References

[1] Robin Nixon. "Learning PHP, MySQL, & JavaScript". O'Reilly Media, 2009.
[2] J. Ahigian and Z. Wang. "A low-cost online inventory database system". Proceedings of the 2009 International Conference on E-Learning, E-Business, Enterprise Information Systems, & E-Government (EEE'09), 276-280, CSREA Press, 2009.
[3] Aaron Stein. "Acupressure Guide: Alleviate Headaches, Neck and Joint Pain, Anxiety Attacks, and Other Ailments". 2nd Ed. SoundTells, 2009.