GET STARTED WITH PHP

As I mentioned in my last personal report, I am able to code in PHP now after two weeks of reading and studying. Though it is a new language to me, it has much similarity to other languages as C++ and Java so that I believe we are all capable to master the basic ideas in PHP within two weeks. Here is something I want to share with you, and maybe it may help you to some extent.

1. Introduction of PHP

PHP, or Hypertext Preprocessor, is a server-side scripting language for web development to produce dynamic web pages. As it is known to all, HTML, or Hypertext Markup Language, is for developing and maintaining static web pages. Therefore, PHP code is embedded into the HTML source document, and interpreted by a PHP processer module to produce web page document. If we are to provide the users with a dynamic web page, such as returning the searching results, or an online calculator, PHP is the best choice for achieving this goal.

2. Basic Grammar of PHP

The basic grammar of PHP is generally similar to the languages we are familiar with except for a few aspects. Noticing these differences, we have no trouble coding in PHP with our previous knowledge about data structure and algorithms.

(1) Notation of variables.

In C++ and Java, we have to declare variables before using them. In addition, we have to specify which data type we want it to be. However, the same thing doesn't happen in PHP since it can detect the data type automatically with the content in the variables. The sign for a variable is '$', and do not forget to add it to the name of variable every time using it, or the compiler will not recognize it. Here is an example of using variables. Noticing that it is actually a SQL statement used for searching in the database which I'll talk about later.

```
//Assign the query.
$select=' SELECT ';
$column=' * ';
$from=' FROM ';
$tables=' books ';
$where=' NATURAL JOIN authors';
$query=$select.$column.$from.$tables.$where;

$result=mysql_query($query);
```

(2) Declaration of functions.

Like C++, PHP also relies on functions to complete multiple tasks. What is different is that in PHP, you have to state explicitly that this IS a function, while not having to specify the data type this function returns. The following example shows a function of basic adding and printing operation.

```
function Add($a,$b)
{
    echo ($a+$b);
}
```

(3) Arrays in PHP.

An array in PHP is actually an ordered map, associating values to keys. A key may be either an integer or a string, and an array value can be any PHP types. Hence, besides the usage of array in C++ and Java, we can finish even more complex problems with the arrays in PHP. The following example links the courses we take this semester to the instructor of each course. Obviously, the result of the statement is “Ben Koo”.

```
$arr=array("Database"=>"Ben Koo","Engineering Economy"=>"ZHU Wanshan");
echo $arr["Database"];
```

(4) Other topics in PHP.

Program of PHP can be either procedure oriented or object oriented. Such property enables us to code with the style we are familiar to. Also, PHP offers many useful functions that can basically satisfy most of our needs.

I’m sure that you can produce your first dynamic web page with the tips I offered above. Now we can observe the practical usage of PHP.

3. Using PHP to Search in a Database

PHP can be used to search in a local database. If you have created a database with MySQL, then we can try to link to it with PHP.

(1) Create the login file.

The first thing we have to do is to login your database. It can be saved as a PHP header file so that if you changed your username or password, only the header file should be modified instead of all the PHP codes.

```php
<?php

$db_host='localhost';
$db_database='test';
$db_username='root';
$db_password='';

?>
```

In the example above, variable $db_database is the database that you want to login, $db_username and $db_password are the username and

password of your local host. The default username is “root” without a password. Save this PHP file to be the header file of other PHP codes. (I saved it as “db_login.php”).

(2) Select and search in the database.

In another PHP file, we can connect to the database with the previous header file using the function that PHP offered called “mysql_connect”.

```
include('db_login.php');
$connection=mysql_connect($db_host,$db_username,$db_password);
```

Then select the database you want to search in with the function “mysql_select_db”.

```
$db_select=mysql_select_db($db_database);
```

If the connection is successful, you can use SQL to search in the database. You can directly write SQL statements in the PHP file, or you can apply a more flexible way: save the basic SQL statements in variables and use them, as I did when show you how to use variables in PHP. “mysql_query” is a function offered also by PHP that can query in a database. If you later display the searching result, you will get what you want!

Besides search, with the basic rule of database operations in PHP, we can create, delete and update databases using the similar technique.

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