ASSIGNMENT NO 5

Title:

Design web application using PHP, MySQL, AJAX

Problem statement: Add dynamic web application features to previously selected application using
PHP, MySQL database connectivity and AJAX controls.

Objective: To study PHP to design web pages and also study MySQL database connectivity in PHP.
To study how to use AJAX controls in web page

Theory:

PHP

PHP stands for Hypertext Preprocessor. It is a programming language used to design dynamic web pages. PHP
was started as Open Source project. Rasmus Lerdorf gave first version of PHP in 1994.
PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content,
databases, session tracking, even build entire e-commerce sites. It is integrated with a number of popular
databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server. PHP supports a
large number of major protocols such as POP3, IMAP, and LDAP. PHP4 added support for Java and distributed
object architectures (COM and CORBA), making n-tier development a possibility for the first time**.**

Common uses of PHP:

PHP performs system functions, i.e. from files on a system it can create, open, read, write, and close them.

PHP can handle forms, i.e. gather data from files, save data to a file, through email you can send data,
return data to the user.

You add, delete, modify elements within your database through PHP.

Access cookies variables and set cookies.

Using PHP, you can restrict users to access some pages of your website.

It can encrypt data.

Characteristics of PHP

Five important characteristics make PHP's practical nature possible −

Simplicity

Efficiency

- Security
- Flexibility
- Familiarity

Sample Program in PHP

Find the 'Hello World' program in PHP as follows:

```
<html>
<head>
<title>Hello World Program in PHP</title>
</head>
<body>
<? php
echo —Hello World!!‖;
?>
</body>
</html>
```

Output of the program will be as follows:

Hello World!!

Database MySQL connectivity using PHP

We need to setup a connection with database. For this, we require url, user id and password for that
user id. Function mysql_connect() is used to create a MySQL connection while mysql_close() is used to close
the database connection.

Following is the sample PHP code for MySQL database connectivity.

```
<?php
$dbhost = 'localhost:3036';
$dbuser = 'guest';
$dbpass = 'guest123';
$conn = mysql_connect($dbhost, $dbuser, $dbpass);
if(! $conn ) {
die('Could not connect: ' . mysql_error());
}
echo 'Connected successfully';
mysql_close($conn);
?>
```

Function mysql_query() is used to execute a SQL query. Following is the sample PHP code to execute
a SQL query for creating a database.

```
<?php
$dbhost = 'localhost:3036';
$dbuser = 'root';
```

```
$dbpass = 'rootpassword';
$conn = mysql_connect($dbhost, $dbuser, $dbpass);
if(! $conn ) {
die('Could not connect: ' . mysql_error());
}
echo 'Connected successfully';
$sql = 'CREATE Database test_db';
$retval = mysql_query( $sql, $conn );
if(! $retval ) {
die('Could not create database: ' . mysql_error());
}
echo "Database test_db created successfully\n";
mysql_close($conn);
?>
```

AJAX

AJAX is a web development technique for creating interactive web applications. AJAX stands for Asynchronous JavaScript and XML. AJAX is a new technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS, and Java Script.

Ajax uses XHTML for content, CSS for presentation, along with Document Object Model and JavaScript for dynamic content display. Conventional web applications transmit information to and from the sever using synchronous requests. It means you fill out a form, hit submit, and get directed to a new page with new information from the server.

All the available browsers cannot support AJAX. Here is a list of major browsers that support AJAX.

- Mozilla Firefox 1.0 and above.
- Netscape version 7.1 and above.
- Apple Safari 1.2 and above.
- Microsoft Internet Explorer 5 and above.
- Konqueror.
- Opera 7.6 and above.

The whole AJAX operation is given in following steps:

1. A client event occurs.
2. An XMLHttpRequest object is created.
3. The XMLHttpRequest object is configured.
4. The XMLHttpRequest object makes an asynchronous request to the Webserver.

5. The Webserver returns the result containing XML document.
6. The XMLHttpRequest object calls the callback() function and processes the result.
7. The HTML DOM is updated.

Following is the sample program which makes use of AJAX. It reads from the text file ajax_info.txt.

```
<html>
<body>
<div id="demo">
<h1>The XMLHttpRequest Object</h1>
<button type="button" onclick="loadDoc()">Change Content</button>
</div>
<script>
function loadDoc() {
var xhttp = new XMLHttpRequest();
xhttp.onreadystatechange = function() {
if (this.readyState == 4 && this.status == 200) {
document.getElementById("demo").innerHTML =
this.responseText;
}
};
xhttp.open("GET", "ajax_info.txt", true);
xhttp.send();
}
</script> </body> </html>
```

Conclusion:

We successfully added dynamic web application features to previously selected application using PHP, MySQL database connectivity and AJAX controls.