Integration of PHP & MySQL database in Cross-platform Mobile Applications

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Abstract: *It is known that PHP is used widely in handling the databases.It is a Server-side Scripting Language. It is also known that PHP is beingused these days inThe development of Native Mobile-Applications such as Android but there is no sufficient information where PHP is used for cross platform applications. another type of application is called Hybrid application.Hybrid-appswhich are also called as the Web apps primarily are built using HTML5 and JavaScript. That is wrapped inside a thin native container that provides access to native platforms.This paper describes the Usage of PHP In Cross-platform Mobile-Applications.*

1. INTRODUCTION

Most of the apps use some kind of data source to display content in the app. All of them accessdata from a server. In most cases it is in JSON(JavaScript Object Notation) format. Accessing JSON files is fine as long as data is served from the same domain, but if you are trying to access the data from a different domain the access will be prohibited because of a security policy called as Same-Origin Policy (SOP) which only allows accessing Document Object Model popularly known as DOM And prevents accessing of data from different domains.However JSON data can be accessed from other domains also by using different methods.The data can also be accessed by making an XMLHttp Request or Jquery methods $ajax() or $getJSON().

HERE is the simple syntax on how to access the JSON data using $getJSON()

```
$.getJSON("http://smec.ac.in", function(
data){
alert(data);
});
```

2. DEFINITION OF HYBRID & CROSS PLATFORM APPLICATIONS.

Hybrid:

- A Hybrid application is the combination of Native with Web Component development.
- A Hybrid application is an app which is installed and run as a native application.
- It uses HTML5,CSS & JavaScript to function its UI and perform all of its

Logic Operations.Hybrid apps are alsocalled as web apps.

Cross-platform:

Cross-platform application development is a kind of mobile app development where the Development is done at one place and the compilation or build is done after the development is completed.And the most important advantage of this is that the developer needs to write the code only once and don't have to foster the code to run it on different platforms such as android, ios , windows etc .

Difference:

Both Hybrid and cross-platform applications results in the same output the difference lies in the flexibility and developmenttechniques that each of these uses .Hybrid applications uses web-technologies and languages where as Cross-platform also includes non-web and standalone tools.Some of the widely used tools cross-platform are Phone gap, Xamarin etc.

3. PROBLEMS FACED BY USER IN INTEGRATION OF PHP IN HYBRID APPLICATIONS

The major problem faced by user in integration of PHP in hybrid applications is:He cannot find how to integrate it because according to the documentation ofany open source framework for quickly building cross-platform mobile apps eg. PhoneGap says that you can only use HTML,CSS & JAVASCRIPT to build cross platform applications.You can't save the front page extension as dot PHP. According to my research when you save the front page with and extension as dot PHP and try to build an cross-platform application then the open source frameworks cannot build the application instead it shows an error.

Research:

They were many test trials done for this research to develop a cross-platform mobile application using PHP, MySql , cordova and phoneGap here are few of them…

1) The index file was saved with an extension dotPHP then tried to build the application with an open source framework called PhoneGap.
   It did not build the application.
2) The database file was put in the localhost and tried to build the application It did not build because a localhost was needed inside the phone too in

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order to run the application and a plugin was required so as to connect both of them.

3) Then I put the php files in the reference link of the html file in this case the application was forcible to read the php files but did not build the application.

4) Then I tried to have the php file with an extension dot html by starting and ending with the html tags.and this time the application was built but the php content was missing because according to thedocumentation of php, if at anypart of the document the phpopen and closing tags are present the file is to be saved with an extension dotphp .

5) The closest test trial was keeping the whole project files in the hosting,And kept a static web page to build a basic application with html5,css,js and cordova In this trial I added a button styled with css and linked the button to the index.php file which was in my hosting but still it did not work because there was no config.xml file in this trial. so it was not able to build the app .

Things to take care before Solution:
1. The front page of the project should be static
2. Config.xml file should contain a xml http request.
3. The extension of the index page
4. should be of html
5. A paid or free hosting should be taken by the developer but not the local host
6. No php file should be present in the project we are going to build every php file should be in the hosting**.**
7. The mobile which is accessing the application should have internet.

Solution:

The solution for this problem is to host the project file on a verified webhosting company such as godaddy, Bigrock etc.

This solution will be explained with an example for better understanding

Here we take 3 files i.e.
1) Index.html
2) Submit.php
3) Static Front page

1. The index.html file

```
<!DOCTYPE HTML>
<html>
<body>
<form action="submit.php" method="post">
Name: <input type="text" name="name"><br>
E-mail: <input type="text" name="email"><br>
<input type="submit">
</form>
</body></html>
```

2. Submit.php

```
<html>
<body>
Welcome <?php echo $_POST["name"]; ?><br>
Your email address is: <?php echo $_POST["email"]; ?>
</body>
</html>
```

3. A static page with simple css button

```
<a href="www.hosting.com/index.html" class="button">Link Button</a>
```
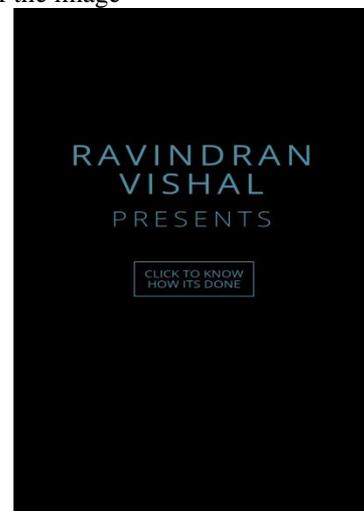
1) Now before running these two files create a static page with a button or a link or any attribute which contains a reference tag i.e. href.
2) Host these two files in your hosting.
3) Now link the static file to your hosting with the help of href tag.

Simple application built in Cross Platform:
In this application we have four major files to develop this application excluding the css files
1) Static front page:
This is a static page with a little css added to it and a button with a link in it which locates to http://vishalnair.esy.es and the html code is written to the right side of the image


```
<!Doctype html>
<body>
<div class="logo">
<divclass="layerp1">
</div>
<divclass="layerp2"></div>
<divclass="layer p3"></div>
<div class="sob">
<span>RavindranVishal     </span>
</div>
<div class="sub">
<span>Presents</span>
</div>
```

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```
<a href="http://vishalnair.esy.es/" target="_blank"
class="subsub" id="ct" data-cont="Saiba mais">CLICK TO
KNOW HOW ITS DONE </a></div>
</body>
</html>
```

2) The Global Configuration file (Config.xml):
The behavior of the app is controlled by this file which is arranged based on W3C Packged Webapps (Widgets) Specification extended to specify core Cordova APIfeatures, plugins, and platform-specific settings.And do not forget to

```
<?xml version="1.0" encoding="UTF-8"?>
<widget xmlns    =http://www.w3.org/ns/widgets
  xmlns:gap = "http://phonegap.com/ns/1.0"
id       = "com.phonegap.visioned"
    version  = "1.0.0">
<name>Vishal</name>
<author href="http://www.gizzmoschool.com/"
email="ravindranvishal2096@gmail.com">
vishal </author>
<feature name="Media">
<param name="android-package"
value="org.apache.cordova.media.AudioHandler" />
</feature>
<preference name="permissions"   value="none"/>
<preference name="orientation"    value="default" />
<preference name="target-device"
 value="universal" />
<preference name="fullscreen"   value="true" />
<preference name="webviewbounce"
value="true" />
<preference name="prerendered-icon"
value="true" />
<preference name="stay-in-webview"
value="false" />
<preference name="ios-statusbarstyle"  value="black-
opaque" />
<preference name="detect-data-types"
value="true" />
<preference name="exit-on-suspend"
value="false" />
<preference name="disable-cursor"
value="false" />

<preference name="phonegap-version"
value="3.5.0" />

<!-- Core plugins -->
<gap:plugin name="org.apache.cordova.geolocation" />
<gap:plugin name="org.apache.cordova.globalization"
/>
<gap:plugin name="org.apache.cordova.inappbrowser"
/>
<gap:plugin name="org.apache.cordova.media" />
<gap:plugin name="org.apache.cordova.network-
information" />

<!—App Icon -->
```
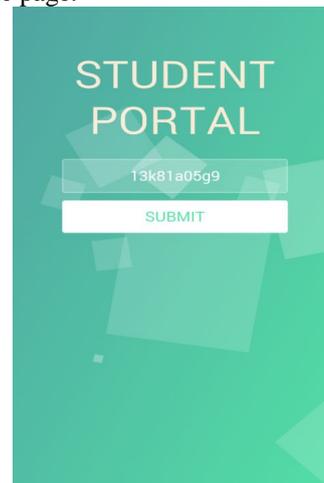
```
<icon src="icon.png" />
<icon src="res/icon/android/ldpi.png"
gap:platform="android"
  gap:qualifier="ldpi" />
<icon src="res/icon/android/mdpi.png"
gap:platform="android"
  gap:qualifier="mdpi" />
<icon src="res/icon/android/hdpi.png"
  gap:platform="android"   gap:qualifier="hdpi" />
<icon src="res/icon/android/xhdpi.png"
gap:platform="android"
  gap:qualifier="xhdpi" />
<icon src="res/icon/android/xxhdpi.png"
gap:platform="android"
  gap:qualifier="xxhdpi" />
<icon src="res/icon/android/xxxhdpi.png"
 gap:platform="android"
  gap:qualifier="xxxhdpi" />

<access origin="*"/>
<plugin name="Media"
 value="org.apache.cordova.AudioHandler" />
<plugin name="cordova-plugin-whitelist" version="1"
/>
<allow-intent href="http://*/*" />
<allow-intent href="https://*/*" />
<platform name="android">
<allow-intent href="market:*" />
</platform>
</widget>
```

3) Index page In hosting:
This file is located in the hosting and it is linked from the previous static page.


```
<!DOCTYPE html>
<html >
<body>
<div class="wrapper">
<div class="container">
<h1>STUDENT PORTAL</h1>
<form action="onlysq.php"
method ="post">
```

```
<input type="text" placeholder="HallticketNumber"
name="hallticketno" value="<?php echo
$hallticketno;?>"/>
<button type="submit" id="login-button"
name="logisubmit"
value="Submit">SUBMIT</button>
</form>
</div>
<ul class="bg-bubbles">  <li></li>
<li></li>
<li></li>
<li></li>
<li></li>
</ul>
</div>
```

4) Retrieval Page:

This page retrieves the values from the database as soon as the User types the Hall ticket no and clicks on submit button.


```
<body>
<?php
header('Content-type: ' . $image['mime_type']);
echo $image['$hallticketno'];
    $servername = "mysql.hostinger.in";
$username = "u997256316_vish";
$password = "tejavishal";
$db= "u997256316_stu";
$hallticketno= $_POST['hallticketno'];
// Create connection
$conn = new mysqli($servername, $username,
$password, $db);
// Check connection
if ($conn->connect_error) {
   die("Connection failed: " . $conn->connect_error);
}
$sql="SELECT * FROM `studentsinfo`as si LEFT
OUTER JOIN attendance as at ON
si.hallticketno=at.hallticketno              WHERE
at.hallticketno='$hallticketno'";
$result = $conn->query($sql);
if ($result->num_rows > 0) {
    echo
"<table><tr><th>sno</th><th>hallticketno</th><th>Na
me</th><th>phoneno</th></tr>";
    // output data of each row
```

```
while($row = $result->fetch_assoc()) {

  echo  "<tr><td>" . $row["sno"]. "</td><td>" .
$row["hallticketno"]. "</td><td> " . $row["name"].
"</td><td> ". $row["phoneno"]."</td></tr>";
?>
<tr>
<td><img    src="<?=$row[image]?>"    width="175"
height="200" /></td>
</tr>
<?
}
    echo "</table>";
} else {
    echo "0 results";
}

$conn->close();
?>
<form action="attendance.php" method ="post">
<button type="submit" id="login-button" class='button'
name="hallticketno"           value="<?php        echo
$hallticketno;?>">Attendance</button>
</form>
<form action="marks.php" method ="post">
<button type="submit" id="login-button" class='button'
name="hallticketno"           value="<?php        echo
$hallticketno;?>">Marks</button>
</form>
</body>
</html>
```

Conclusion:

By using this method effective mobile applications can be built in various platforms such as Android , IOS etc . Integration of PHP is possible if the code has been built in the above method and this method is beneficial to all the mobile application developers whowants to build an application with php in cross platform and hybrid application.

Many people do not go for developing mobile applications by studying the documentation of the open source frameworks, which contains that these applications can be built only by using HTML CSS And JS. this is a simple method for integrating php into cross platform mobile applications .

In this paper we show how to integrate php without any complications which is very useful for world wide developers.

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