CHAPTER 6

SYSTEM IMPLEMENTATION AND INTEGRATION

**6.1 INTRODUCTION:**

This chapter will include the implementation and integration process of the project, the implementation section will talk about the hardware and software that has been used to evolve our application and website. Also, it's include some of problem which faced us during the work, some parts of the project code for the main and major functions will be displayed. The second section will contain the different system component and how it's integrated with each other.

**6.2 HARDWARE AND SOFTWARE**

**6.2.1 HARDWARE**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Device** | **Quantity** | **Description** |
| **1** | Windows laptop | 5 | Used for developing the application and website |
| **2** | Android mobile | 1 | To test the application |
| **3** | Printer | 1 | To test the system and print the project document |

**Table 6-1: Hardware specification**

**6.2.2 SOFTWARE:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Software** | **Developer** | **Version** | **Description** |
| Dropbox | Dropbox, Inc |  | Used to store our project and project document |
| MS Office Word | Microsoft | 2016 | To write our documentation |
| phpMyAdmin | ThephpMyAdmin Project | 5.6.30 | A tool to manage MySQL database by creating, modifying or deleting tables or row |
| Xampp | Apache Friends | - | Used to create a local web server for testing purposes. |
| Android studio and android  SDK | Andrew | - | To implement the application. |
| GitHub | GitHub, Inc. | - | A Git repository hosting server used for source code management and integration. |

**table 6-2: Software specification**

6.3 IMPLEMENTATION DIFFICULTIES:

Many of fortuitous challenges faced the programmers and developers when they do their work but they avoid it and dealing with it expertly. We too as programmers had faced many difficulties, but we handled the issues well enough to exceed them. We will mention some of the challenges and problems that took a lot of time from us to discover and solve.

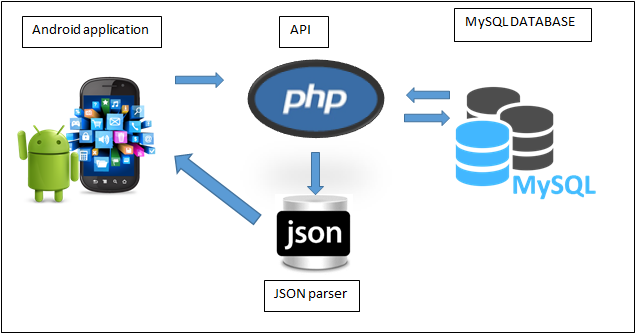
1. Some of the functions took a long time to implement, and the reason was that the ideas were new and we were dealing for the first time with these requirements, but solving them did not require more than effort and time and detailed research**.**
2. We had trouble translating parts of the code to appear in Arabic because we design our website in Arabic only and most of the libraries are supported in English. Examples of that, the text editor and the nationality dropdown list.
3. Dealing with Android was very difficult because of its delay to respond to as we know it supported by many features for several of platforms and our computer does not help much efficiency.
4. When we were implementing and testing the send email function, we encountered a problem with the server we used, it gives no response to our sending because of the huge number of attempts.

|  |  |  |
| --- | --- | --- |
| **Problem** | **Description** | **Solution** |
| SMTP ERROR: QUIT command failed:  SMTP connect() failed. | The email server blocking or not receiving our requirement to send email | Implement an array of solution which keep trying until the send done successfully. |

**Table 6-3: problem and it solution**

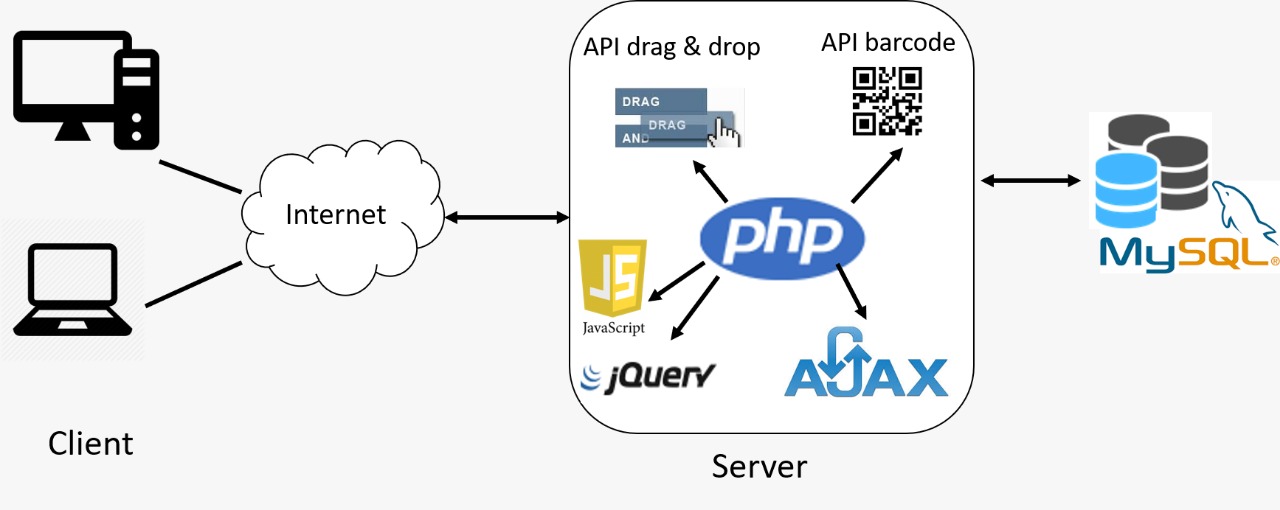
# 6.4 IMPLEMENTATION DETAILS:

As we see that our system includes both application and website, so here is specification for each platform .The application is advanced to be under android platform , we used PHP as API to allow the application being communicate with project server and MySQL as a database tool furthermore, JSON for data transformation and interchanging between our application and server.



**Figure6-1: application platform**

In addition, for the website platform we used PHP as API to allow website pages being communicate with project server and MySQL as a database tool furthermore, JSON, AJAX for data transformation and interchanging between our pages and server to make the usability more interactive by sharing small amounts of data with web provider.



**Figure6.2: website platform**

**6.4.1 Code:**

In this section of the implementation chapter, we are going to mention parts of source code of main functions for the application and website.

**6.4.1.1 Organizer privilege:**

The organizer has a privilege to do many tasks after using the website and the application. In this figure we're going to display most of the functions that the organizer can do it after using the website.

Log In

Manage prize

Manage event

Manage certificate

Manage badge

Manage email

Manage subevent

Statistics

Add badge

Send email

Add event

Chose prize winner

Manage rate

Edit event

Manage form

edit badge

Create email template

Manage TrackAttendee

Show event details

Manage onsite

Send badge

**Figure 6-2 : organizer privilege interfaces**

**Table 6-4:Add event function code**

|  |
| --- |
| **Function name:** Add event |
| **Description :** this function allow the organizer to add event while he using the website |
| |  | | --- | | if (isset($\_SESSION['emailconfirm']) and $\_SESSION['emailconfirm'] == 1) { | |  | if (isset($\_POST['add'])) { | |  | $eventName = $\_POST['eventName']; | |  | $EventDescription = $\_POST['description']; | |  | $sdate = $\_POST['sdaytime'] . ' 00:00:00.000'; | |  |  | |  | $edate = $\_POST['edaytime'] . ' 00:00:00.000'; | |  | $dateend = date('Y-m-d', strtotime($edate)); | |  | $location = $\_POST['location']; | |  | $organizationName = $\_POST['organizer']; | |  | $maxAttendee = $\_POST['maxAttendee']; | |  | if ($datestart > $dateend) { | |  | echo " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | <strong> فشل </strong> يرجى التحقق من تاريخ بداية ونهاية الحدث | |  | </div> "; | |  | } else { | |  | $IDT = $\_SESSION['organizerID']; | |  | $sql = mysqli\_query($con, "INSERT INTO event ( event\_ID, name\_Event, descrption\_Event ,sartDate\_Event,endDate\_Event,location\_Event,organization\_name\_Event,maxNumOfAttendee,organizer\_ID) VALUES ('','$eventName','$EventDescription','$datestart','$dateend','$location','$organizationName','$maxAttendee','$IDT')") or die(mysqli\_error($con)); | |  | if ($sql) { | |  | header("location: /tactic/manageEvent.php"); | |  | exit; | |  | } else { | |  | echo " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | <strong> فشل</strong> لم تتم عملية الاضافة بنجاح يرجى التحقق | |  | </div> "; | |  | } | |  | }} | |  | } else { | |  | echo " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | <strong> يرجى</strong> تثبيت الايميل لكي تتمكن من أضافة حدث | |  | </div> "; | |  | } | |  | ?> | |

**Table 6-5: send email function code**

|  |
| --- |
| **Function name:** Send email |
| **Description :** This function allow the organizer to send email for all type of attendees |
| |  |  |  | | --- | --- | --- | | $mail = new PHPMailer\PHPMailer\PHPMailer(); | | | |  | | $mail = new PHPMailer\PHPMailer\PHPMailer(); | | |  | $mail->CharSet = "utf-8"; | | | |  | $mail->SMTPKeepAlive = true; | | | |  | $mail->SMTPOptions = array( | | | |  | 'ssl' => array( | | | |  | 'verify\_peer' => false, | | | |  | 'verify\_peer\_name' => false, | | | |  | 'allow\_self\_signed' => true | | | |  | ) | | | |  | ); | | | |  | $mail->IsSMTP(); // enable SMTP | | | |  | //$mail->SMTPDebug = SMTP::debugDumpParams; | | | |  | $mail->SMTPDebug = 0;// debugging: 1 = errors and messages, 2 = messages only | | | |  |  | | | |  | $mail->SMTPAuth = true; // authentication enabled | | | |  | $mail->SMTPSecure = 'tls'; // secure transfer enabled REQUIRED for Gmail | | | |  | $mail->Host = "smtp.gmail.com"; | | | |  | $mail->Port = 587; // or 587 | | | |  | $mail->IsHTML(true); | | | |  | $mail->Username = 'tacticevent131@gmail.com'; | | | |  | $mail->Password = 'marwa123456789'; | | | |  | $mail->setfrom('tacticevent131@gmail.com', 'tactic'); | | | |  | ////////////////////////////////////////////////////////////// | | | |  | if (isset($\_GET['event\_ID'])) { | | | |  | $event\_ID = $\_GET['event\_ID']; | | | |  | $query = mysqli\_query($con, "SELECT \* FROM event WHERE event\_ID = '$event\_ID' ") or die(mysqli\_error($con)); | | | |  | $rows = mysqli\_fetch\_array($query); | | | |  | $eventName = $rows['name\_Event']; | | | |  | $eventDate = $rows['sartDate\_Event']; | | | |  | if (isset($\_GET['all'])) | | | |  | $sql = mysqli\_query($con, "SELECT \* FROM attendee WHERE eventId = '$event\_ID' ") or die(mysqli\_error($con)); | | | |  | elseif (isset($\_GET['VIP'])) | | | |  | $sql = mysqli\_query($con, "SELECT \* FROM attendee WHERE eventId = '$event\_ID'AND VIPcode !=0") or die(mysqli\_error($con)); | | | |  | elseif (isset($\_GET['normal'])) { | | | |  | $sql = mysqli\_query($con, "SELECT \* FROM attendee WHERE eventId = '$event\_ID' AND VIPcode = 0 ") or die(mysqli\_error($con)); | | | |  | } //isset($\_GET['normal']) | | | |  | } //isset($\_GET['event\_ID']) | | | |  | if ($sql) { | | | |  | $x = 0; | | | |  | while ($row = mysqli\_fetch\_array($sql)) { | | | |  | $email\_Att[$x] = $row['email']; | | | |  | $mail->AddAddress($row['email']); | | | |  | $name[$x] = $row['name']; | | | |  | $mensaje = file\_get\_contents('emailTemplate.html'); | | | |  | $mensaje = str\_replace("{{USERNAME}}", $name[$x], $mensaje); | | | |  | $mensaje = str\_replace("{{eventName}}", $eventName, $mensaje); | | | |  | $mensaje = str\_replace("{{eventDate}}", $eventDate, $mensaje); | | | |  | $x++; | | | |  | if (isset($\_POST['submit'])) { | | | |  | $subject = $\_POST['subject']; | | | |  | $body = $\_POST['message']; | | | |  | if (isset($\_POST['logo'])) | | | |  | $logo = $\_POST['logo']; | | | |  | $mail->Subject = $subject; | | | |  | $mensaje = str\_replace("{{subject}}", $body, $mensaje); | | | |  | $mensaje = str\_replace("{{eventLogo}}", $logo, $mensaje); | | | |  |  | | | |  | $mail->Body = $mensaje ; | | | |  | if (!$mail->send()) { | | | |  | $masg = " <div class='alert alert-danger alert-dismissible'> | | | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | | | |  | <strong> حدث خطأ </strong> غير متوقع ! فضلا حاول مرة اخرى. | | | |  | </div> "; | | | |

**Table 6-6:chose prize winner function code**

|  |
| --- |
| **Function name:** chose prize winner. |
| **Function description:** this function chose a prize winner from the attendees with his/her name, phoneNumber , email , nationality . |
| |  |  | | --- | --- | |  | if (isset($\_POST['save'])) {  $prizeId = $\_GET['prizeId']; | |  | // in case the user try to save more the one time we will delete old values and add the new winners | |  | $query = "DELETE from attendeewinners where prizeId=$prizeId"; | |  | // to get the record of prize that already added from add page | |  | $prizeQuery = mysqli\_query($con, "SELECT \* FROM prize WHERE prize\_ID ='$prizeId' ") or die(mysqli\_error($con)); | |  | $row = mysqli\_fetch\_row($prizeQuery); | |  | $numOfPrize = $row[2]; | |  | for ($countPrize = 0; $countPrize < $numOfPrize; $countPrize++) { | |  |  | |  | $attendeeId = $\_POST['attendeeId' . $countPrize]; | |  |  | |  | $query = "INSERT INTO attendeewinners (attendeeId, prizeId) | |  | VALUES ($attendeeId,$prizeId)"; | |  |  | |  | $sql = mysqli\_query($con, $query) or die(mysqli\_error($con)); | |  | if (!$sql) { | |  | $isSuccessOperation = false; | |  | break; | |  | } | |  | } | |
| |  | | --- | |  | |  |  | |  | if ($isSuccessOperation) { | |  | header("location: /tactic/managePrize.php"); | |  | exit; | |  | } else { | |  | // in case we have any problem with saving winners we will delete all winner related with this | |  | //prize to start another clean operation | |  |  | |  | $query = "DELETE from attendeewinners where prizeId=$prizeId"; | |  | $sql = mysqli\_query($con, $query) or die(mysqli\_error($con)); | |  | echo "<div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | لم تتم عملية حفظ الفائزين بنجاح يرجى الإعادة | |  | </div> "; | |  | } | |  | } | |  | if (isset($\_GET['prizeId'])) { | |  | $prizeId = $\_GET['prizeId']; | |  |  | |  | // to get the record of prize that already added from add page | |  | $prizeQuery = mysqli\_query($con, "SELECT \* FROM prize WHERE prize\_ID ='$prizeId' ") or die(mysqli\_error($con)); | |  | $row = mysqli\_fetch\_row($prizeQuery); | |  | $namePrize = $row[1]; | |  | $numOfPrize = $row[2]; | |  | $eventId = $row[3]; | |  | $subEventId = $row[4]; | |  |  | |  |  | |  | // to load the winners that already selected in case we have them | |  | if (!isset($\_POST['chooseWinner'])) { | |  | // to get the record of prize that already added from add page | |  | $query = "Select att.id , att.name,phone,email,na.Name as | |  | nationalityName ,DOB from attendeewinners at winner join attendee att on att.id=atw.attendeeId | |  | inner join nationality na on na.Id=att.nationalityId where atw.prizeId =$prizeId"; | |  | $winnerQuery = mysqli\_query($con, $query)or die(mysqli\_error) | |  | |

**Table 6-7: edit badge function code**

|  |
| --- |
| **Function name:** edit attendee badge |
| **Function description:**  this function give the organizer the ability to edit the organizer badge when ever he want with specific color ,size ,code place. |
| |  | | --- | |  | |  | |  | function calculateX($value)  { | |  | $yposition = strpos($value, "Y"); | |  | $xpostion = strpos($value, "X"); | |  | $left = substr($value, $xpostion + 1, $yposition - 1); | |  | return $left; | |  | } | |  |  | |  | function calculateY($value) | |  | { | |  | $yposition = strpos($value, "Y"); | |  | $top = substr($value, $yposition + 1); | |  | return $top; | |  | } | |  |  | |  | // this section for get the event name from DB for curent organizer | |  | $query = mysqli\_query($con, "SELECT \* FROM event where organizer\_ID='$organizerID ' ") or die(mysqli\_error()); | |  | //get the value of drop-down list for barcode size, font color and font size from DB | |  | $barcodesize = mysqli\_query($con, "SELECT \* FROM barcodesize ") or die(mysqli\_error()); | |  | $color = mysqli\_query($con, "SELECT \* FROM color ") or die(mysqli\_error()); | |  | $fontsize=mysqli\_query($con, "SELECT \* FROM fontsize ") or die(mysqli\_error()); | |  |  | |  | // to get the badge type from lookup tabel | |  | $badgeTypeQuery = mysqli\_query($con, "SELECT \* FROM badgetype") or die(mysqli\_error()); | |  |  | |  | $badgeIfo = mysqli\_query($con, "SELECT \* FROM badge b INNER JOIN imageinfo img ON img.badgeId = b.badge\_ID | |  | where b.badge\_ID='$badgeIdForEdit ' ") | |  | or die(mysqli\_error()); | |  |  | |  | $row = mysqli\_fetch\_array($badgeIfo); | |  | $eventIdEd= $row[2]; | |  | $BadgeTypeEd= $row[1]; | |  | $colorEd=$row[8]; | |  | $barSizeEd=$row[9]; | |  | $fontSizeEd=$row[10]; | |  | $imageEd=$row[6]; | |  | $imageinfoId=$row[7]; | |  | $namePosition=$row[12]; | |  | $careerPosition=$row[13]; | |  | $barcodePosition=$row[14]; | |  | $imagePosition=$row[15]; | |  |  | |  | $name = $row[3]; | |  | $size = $row[4]; | |  | $type = $row[5]; | |  | $location = $row[6]; | |  | $badgeName=substr($type,6); | |  | $chechUpload=1; | |  | if (isset($\_POST['add'])) { | |  | $eventId = $\_POST['eventId']; | |  | $badgeTypeId = $\_POST['badgeTypeId']; | |  |  | |  | if ($BadgeTypeEd!= $badgeTypeId){ | |  | $checkQuery = mysqli\_query($con, "SELECT \* FROM badge WHERE event\_ID='$eventId' and BadgeTypeId='$badgeTypeId'") or die(mysqli\_error()); | |  | if (mysqli\_num\_rows($checkQuery) > 0) { | |  | $chech=0; | |  | }else{ | |  | $chech=1;} | |  | }else{ | |  | $chech=1;} | |  |  | |  | if ($chech== 0) { | |  | $message= " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | <strong> فشل</strong> الحدث مرتبط ببطاقة مسبقا لايمكن اتمام العملية | |  | </div> "; | |  |  | |  | } else { | |  |  | |  | if ( !empty($\_FILES["fileToUpload"]["name"])) { | |  |  | |  | $name = $\_FILES['fileToUpload']['name']; | |  | $size = $\_FILES['fileToUpload']['size']; | |  | $type = $\_FILES['fileToUpload']['type']; | |  | $tmp\_name = $\_FILES['fileToUpload']['tmp\_name']; | |  | $badgeName=substr($type,6); | |  | // add eventId & badgeTypeId to the name of file to make sure the name is unique | |  | $location = "UploadFile/".$eventId."/".$badgeTypeId.$eventId.".".$badgeName; | |  |  | |  | // save image in Specific position | |  | if (move\_uploaded\_file($tmp\_name, $location)) { | |  | true; | |  | }else {$message= " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | <strong> فشل</strong> يوجد خطأ في حفظ الملف | |  | </div> "; | |  | $chechUpload=0; | |  | } | |  | } | |  |  | |  | if ($chechUpload=1||$chechUpload=0){ | |  | $max\_size = 100000; | |  | if ($size <= $max\_size) { | |  | // check the type of image | |  | if ($type=="image/jpg"|| $type=="image/JPG" ||$type=="image/jpeg"|| $type=="image/JPEG"){ | |  |  | |  | if($chechUpload!=0){ | |  | // add info of new badge to the DB | |  |  | |  | $visitorName = $\_POST["name"];//position | |  | $visitorCareer = $\_POST["career"];//position | |  | $visitorBarcode = $\_POST["barcode"];//position | |  | $imgPosition= $\_POST["imgPosition"];//position | |  | $color=$\_POST["color"]; | |  | $barSize=$\_POST["barSize"]; | |  | $fontSize=$\_POST["fontSize"]; | |  |  | |  | $sql = mysqli\_query($con, "UPDATE badge set BadgeTypeId='$badgeTypeId',event\_ID='$eventId',badgeTemplateName='$name',badgeTemplateSize='$size',badgeTemplateType='$type',badgeTemplateLocation='$location' | |  | where badge\_ID='$badgeIdForEdit' ") or die(mysqli\_error($con)); | |  |  | |  | $sqlimage = mysqli\_query($con, "UPDATE imageinfo set color='$color' ,barSize='$barSize' ,fontSize='$fontSize' ,badgeId='$badgeIdForEdit',namePosition='$visitorName ',careerPosition='$visitorCareer', | |  | barcodePosition='$visitorBarcode',imgPosition='$imgPosition' where imageId='$imageinfoId'") or die(mysqli\_error($con)); | |  | ///Check if add badge to DB has been done Successfully | |  | if ($sql && $sqlimage) { | |  | header("location: /tactic/manageBadge.php"); | |  | } else { | |  | $message=" <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | <strong> فشل</strong> لم تتم عملية التعديل بنجاح يرجى التحقق | |  | </div> "; | |  | } | |  | } | |  | } else { | |  | // for size message | |  | $message= " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | يرجى التحقق من صيغة الملف يجب ان تكون من نوع (JPG)(JPEG) | |  | </div> "; | |  | } | |  | } else | |  | $message= " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | تنبيه أكبر حجم للملف هو 10 ميغا | |  | </div> "; | |  | }//end | |  | }// end else | |  | } //end add | |  | ?> | |  |  | |  | <!DOCTYPE html> | |  | <html lang="ar"> | |  |  | |

**Table 6-8: add certificate function code**

|  |
| --- |
| **Function name:** add certificate |
| **Function description:** this code allow the organizer to add certificate for each attendee who attend |
| |  | | --- | |  | |  | // this section for get the event name fro DB $query = mysqli\_query($con, "SELECT \* FROM event where organizer\_ID= '$organizerid'") or die(mysqli\_error()); | |  |  | |  | if (isset($\_POST['add']) && !empty($\_FILES["fileToUpload"]["name"])) { | |  |  | |  | $eventId = $\_POST['eventId']; | |  |  | |  | $checkQuery = mysqli\_query($con, "SELECT \* FROM certificate WHERE event\_ID='$eventId'") or die(mysqli\_error()); | |  |  | |  | if (mysqli\_num\_rows($checkQuery)>0) { | |  | echo " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | <strong> فشل</strong> الحدث مرتبط بشهادة مسبقا لايمكن اتمام العملية | |  | </div> "; | |  |  | |  | } else { | |  |  | |  | $name = $\_FILES['fileToUpload']['name']; | |  | $size = $\_FILES['fileToUpload']['size']; | |  | $type = $\_FILES['fileToUpload']['type']; | |  | $tmp\_name = $\_FILES['fileToUpload']['tmp\_name']; | |  | $location = "UploadFile/certificate/"; | |  |  | |  | $max\_size = 100000; | |  | if ($size <= $max\_size) { | |  | if (move\_uploaded\_file($tmp\_name, $location . $name)) { | |  |  | |  | // add info of new badge to the DB | |  |  | |  | $sql = mysqli\_query($con, "INSERT INTO certificate | |  | (event\_ID,templateName, | |  | templateSize,templateType, templateLocation) | |  | VALUES ('$eventId','$name' ,'$size', '$type', '$location$name')") or die(mysqli\_error($con)); | |  | ///Check if add badge to DB has been done Successfully | |  | if ($sql) { | |  | header("location: /tactic/manageCertificate.php"); | |  | } else { | |  | echo " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | <strong> فشل</strong> لم تتم عملية الاضافة بنجاح يرجى التحقق | |  | </div> "; | |  | } | |  | } else { | |  | echo " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | <strong> فشل</strong> يوجد خطأ في حفظ الملف | |  | </div> "; | |  |  | |  | } | |  | } else { | |  | // for size message | |  | echo " <div class='alert alert-danger alert-dismissible'> | |  | <button type='button' class='close' data-dismiss='alert'>&times;</button> | |  | <strong> يرجى</strong> أكبر حجم للملف هو 10 ميغا | |  | </div> "; | |  |  | |  |  | |  |  | |  |  | |

**6.4.1.2 Organizer privilege(app):**

As we said before that the organizer could do many tasks on the application, in the figure bellow most of the important functions he / she able to do.

**Figure 6-3 : organizer privilege on app interfaces**

Log in

Scan barcode

Print badge

|  |
| --- |
| **Function name:** Print Badge. |
| **Function description:** This function allow the organizer to print a badge for the attendee . |
| @Override **protected void** onCreate(Bundle savedInstanceState) {  **super**.onCreate(savedInstanceState);  setContentView(R.layout.***activity\_print***);  **eventID** = getIntent().getExtras().getString(**"event\_ID"**,**""**);  **Attendee\_ID** = getIntent().getExtras().getString(**"Attendee\_ID"**,**""**);  **final** ImageView imageView = findViewById(R.id.***imageView***);   **printBTN** = (Button) findViewById(R.id.***printBTN***);  **url** = **"http://tactickevent.com/UploadFile/"** + **eventID** + **"/badge/"** + **Attendee\_ID** + **".jpg"**;  Picasso.*get*().load(**url**).into(imageView);  **printBTN**.setOnClickListener(**new** View.OnClickListener() {  @Override  **public void** onClick(View view) {  BitmapDrawable drawable = (BitmapDrawable) imageView.getDrawable();  printImage(**url**, drawable.getBitmap());  }  });  } **private void** printImage(String fileName, Bitmap bitmap) {  **if** (PrintHelper.*systemSupportsPrint*()) {  PrintHelper printHelper = **new** PrintHelper(**this**);  printHelper.setColorMode(PrintHelper.***COLOR\_MODE\_COLOR***);  printHelper.setScaleMode(PrintHelper.***SCALE\_MODE\_FIT***);  printHelper.printBitmap(fileName, bitmap);  } **else** {  Toast.*makeText*(**this**, **"هناك خطأ في الطباعة الرجاء المحاولة مرةأخرى"**, Toast.***LENGTH\_SHORT***).show();  } } |

**Table 6-10: scan barcode code**

|  |
| --- |
| **Function name:** Scan Barcode |
| **Function description:** This function allow the organizer to scan the attendee barcode for tracking . |
| **public class** ScanActivity **extends** AppCompatActivity **implements** ZXingScannerView.ResultHandler{  **private static final int *REQUEST\_CAMERA*** = 1;  **private** ZXingScannerView **scannerView**;  String **Attendee\_ID**;  InputStream **is**=**null**;  **private static int** *camId* = Camera.CameraInfo.***CAMERA\_FACING\_BACK***;  **int code**;  **public** String **eventID**;  **public** String **subevent\_ID** ;  String **attendeeName**;  **private** String **URL\_Scan\_Subevent**=**"http://tactickevent.com/phpApp/scanSubeventApp.php"**;  **private** String **URL\_Scan\_Event**=**"http://tactickevent.com/phpApp/scanEventApp.php"**;   String **URL\_AttendeeName**= **"http://tactickevent.com/phpApp/getAttNameApp.php?Attendee\_ID="**;  **static** String *title* ;  **int anyActivity** = 0;    @Override  **protected void** onCreate(Bundle savedInstanceState) {  **super**.onCreate(savedInstanceState);  setContentView(R.layout.***activity\_scan***);  callswitch();    **scannerView** = **new** ZXingScannerView(**this**);  setContentView(**scannerView**);   **int** currentApiVersion = Build.VERSION.***SDK\_INT***;   **if**(currentApiVersion >= Build.VERSION\_CODES.***M***)  {  **if**(checkPermission())  {  *// Toast.makeText(getApplicationContext(), "Permission already granted!", Toast.LENGTH\_LONG).show();* }  **else** {  requestPermission();  }  }   }   **private void** callswitch() {  **int** whichAct = getIntent().getExtras().getInt(**"activity"**,0);  **switch**(whichAct) {  **case** 1:  **anyActivity** = 1;  *// get the data of Activity1* **eventID** = getIntent().getExtras().getString(**"eventID"**,**""**);   **break**;  **case** 2:  **anyActivity** = 2;  *// get the data of Activity2* **eventID** = getIntent().getExtras().getString(**"eventID"**,**""**);  **subevent\_ID** = getIntent().getExtras().getString(**"eventIdSubSelect"**,**""**);  **break**;  }  }   **private boolean** checkPermission()  {  **return** (ContextCompat.*checkSelfPermission*(getApplicationContext(), ***CAMERA***) == PackageManager.***PERMISSION\_GRANTED***);  }   **private void** requestPermission()  {  ActivityCompat.*requestPermissions*(**this**, **new** String[]{***CAMERA***}, ***REQUEST\_CAMERA***);  }   @Override  **public void** onResume() {  **super**.onResume();   **int** currentapiVersion = android.os.Build.VERSION.***SDK\_INT***;  **if** (currentapiVersion >= android.os.Build.VERSION\_CODES.***M***) {  **if** (checkPermission()) {  **if**(**scannerView** == **null**) {  **scannerView** = **new** ZXingScannerView(**this**);  setContentView(**scannerView**);  }  **scannerView**.setResultHandler(**this**);  **scannerView**.startCamera();  } **else** {  requestPermission();  }  }  }   @Override  **public void** onDestroy() {  **super**.onDestroy();  **scannerView**.stopCamera();  }  **public void** onRequestPermissionsResult(**int** requestCode, String permissions[], **int**[] grantResults) {  **switch** (requestCode) {  **case *REQUEST\_CAMERA***:  **if** (grantResults.**length** > 0) {   **boolean** cameraAccepted = grantResults[0] == PackageManager.***PERMISSION\_GRANTED***;  **if** (cameraAccepted){  Toast.*makeText*(getApplicationContext(), **"تم الحصول على إذن الوصول للكاميرا"**, Toast.***LENGTH\_LONG***).show();  }**else** {  Toast.*makeText*(getApplicationContext(), **"لم يتم الحصول على إذن استخدام الكاميرا"**, Toast.***LENGTH\_LONG***).show();  **if** (Build.VERSION.***SDK\_INT*** >= Build.VERSION\_CODES.***M***) {  **if** (shouldShowRequestPermissionRationale(***CAMERA***)) {  showMessageOKCancel(**"You need to allow access to both the permissions"**,  **new** DialogInterface.OnClickListener() {  @Override  **public void** onClick(DialogInterface dialog, **int** which) {  **if** (Build.VERSION.***SDK\_INT*** >= Build.VERSION\_CODES.***M***) {  requestPermissions(**new** String[]{***CAMERA***},  ***REQUEST\_CAMERA***);  }  }  });  **return**;  }  }  }  }  **break**;  }  }   **private void** showMessageOKCancel(String message, DialogInterface.OnClickListener okListener) {  **new** android.support.v7.app.AlertDialog.Builder(ScanActivity.**this**)  .setMessage(message)  .setPositiveButton(**"OK"**, okListener)  .setNegativeButton(**"Cancel"**, **null**)  .create()  .show();  }   @Override  **public void** handleResult(Result result) {  **Attendee\_ID** = result.getText();   getAttName();   }   **public void** showAlert1(){  AlertDialog.Builder builder = **new** AlertDialog.Builder(**this**);  builder.setNegativeButton(**"إلغاء"**, **new** DialogInterface.OnClickListener() {  **public void** onClick(DialogInterface dialog, **int** which) {   finish();  }  });   builder.setPositiveButton(**"نعم"**, **new** DialogInterface.OnClickListener() {  @Override  **public void** onClick(DialogInterface dialogInterface, **int** i) {  Intent intent = **new** Intent(ScanActivity.**this**, PrintActivity.**class**);  intent.putExtra(**"event\_ID"**, **eventID**);  intent.putExtra(**"Attendee\_ID"**, **Attendee\_ID**);  startActivity(intent);  }  });  builder.setMessage(*title* + **"\n"** + **"هل تريد طباعة البطاقة التعريفية؟ "**);   builder.create().show();  }   **public void** showAlert2(){  AlertDialog.Builder builder = **new** AlertDialog.Builder(**this**);  builder.setNegativeButton(**"حسناً"**, **new** DialogInterface.OnClickListener() {  **public void** onClick(DialogInterface dialog, **int** which) {   finish();  }  });   *// builder.setMessage(title );* builder.setMessage(*title*);  builder.create().show();  }    **private void** updateEvent( **final** String event\_ID ,**final** String Attendee\_ID ) {   RequestQueue queue = Volley.*newRequestQueue*(**this**);  StringRequest postRequest = **new** StringRequest(Request.Method.***POST***, **URL\_Scan\_Event**,  **new** Response.Listener<String>()  {  @Override  **public void** onResponse(String response) {   Log.*d*(**"Update: "**,**""**+response);   **try** {  JSONObject jsonObject = **new** JSONObject(response);   **if**(jsonObject.getInt(**"value"**)==1){   *title* = **" أهلاً "** +**attendeeName** + **" تم تسجيل حضورك بنجاح "**;  showAlert1();   }  **else if**(jsonObject.getInt(**"value"**)==0){   *title* = **" أهلاً "** +**attendeeName** +**" لقد قمت بتسجيل حضورك مسبقاً "**;  showAlert2();  *// Toast.makeText(getApplicationContext(), title, Toast.LENGTH\_LONG).show();* }  **else if**(jsonObject.getInt(**"value"**)==2){   *title* = **"عذراً "** +**attendeeName**+ **" انت لم تقم بالتسجيل في الحدث من قبل "**;  showAlert2();  *// Toast.makeText(getApplicationContext(), title, Toast.LENGTH\_LONG).show();* }   } **catch** (JSONException e) {  e.printStackTrace();  }    }  },  **new** Response.ErrorListener()  {  @Override  **public void** onErrorResponse(VolleyError error) {  *// error* Toast.*makeText*(ScanActivity.**this**,**"Error"**,Toast.***LENGTH\_LONG***).show();  }  }  ) {  @Override  **protected** Map<String, String> getParams()  {  Map<String, String> params = **new** HashMap<String, String>();  params.put(**"event\_ID"**, event\_ID);  params.put(**"Attendee\_ID"**, Attendee\_ID);  **return** params;  }  };  queue.add(postRequest);    }    **private void** updateSubevent(**final** String Attendee\_ID ,**final** String subevent\_ID) {   RequestQueue queue = Volley.*newRequestQueue*(**this**);  StringRequest postRequest = **new** StringRequest(Request.Method.***POST***, **URL\_Scan\_Subevent**,  **new** Response.Listener<String>()  {  @Override  **public void** onResponse(String response) {   Log.*d*(**"Update: "**,**""**+response);   **try** {  JSONObject jsonObject = **new** JSONObject(response);   **if**(jsonObject.getInt(**"value"**)==1){   *title* = **" أهلاً "** +**attendeeName** +**" تم تسجيل حضورك بنجاح "**;  *//builderAlert();* showAlert1();   }  **else** {   *title* = **" أهلاً "** +**attendeeName** +**" لقد قمت بتسجيل حضورك مسبقاً "**;  showAlert2();  *// Toast.makeText(getApplicationContext(), title, Toast.LENGTH\_LONG).show();* }     } **catch** (JSONException e) {  e.printStackTrace();  }    }  },  **new** Response.ErrorListener()  {  @Override  **public void** onErrorResponse(VolleyError error) {  *// error* Toast.*makeText*(ScanActivity.**this**,**"Error"**,Toast.***LENGTH\_LONG***).show();  }  }  ) {  @Override  **protected** Map<String, String> getParams()  {  Map<String, String> params = **new** HashMap<String, String>();  *//params.put("event\_ID", event\_ID);* params.put(**"Attendee\_ID"**, Attendee\_ID);  params.put(**"subevent\_ID"**, subevent\_ID);   **return** params;  }  };  queue.add(postRequest);    }  **private void** getAttName(){  RequestQueue queue = Volley.*newRequestQueue*(**this**);   StringRequest stringRequest = **new** StringRequest(Request.Method.***GET***,  **URL\_AttendeeName**+**Attendee\_ID**,  **new** Response.Listener<String>() {  @Override  **public void** onResponse(String response) {   **try** {  JSONObject jObj = **new** JSONObject(response);  **if** (jObj.getInt(**"value"**)== 1) {   **attendeeName** = jObj.getString(**"name"**);  **if**(**anyActivity** == 2)  updateSubevent(**Attendee\_ID**, **subevent\_ID**);  **else if**(**anyActivity** == 1)  updateEvent(**eventID**, **Attendee\_ID**);   }  **else if** (jObj.getInt(**"value"**)== 0)  Toast.*makeText*(getApplicationContext(), **"عذراً انت لم تقم بالتسجيل بهذا الحدث من قبل "**, Toast.***LENGTH\_LONG***).show();   } **catch** (JSONException e) {  e.printStackTrace();  }   }  },  **new** Response.ErrorListener() {  @Override  **public void** onErrorResponse(VolleyError error) {  **if**(error != **null**){   Toast.*makeText*(getApplicationContext(), **"Something went wrong."**, Toast.***LENGTH\_LONG***).show();  }  }  }   );  queue.add(stringRequest);   }  } |

6.5 SYSTEM INTEGRATION:

In this section, we will show how the component of our system will be integrated together. At this level which is the first we divided the function into two groups: First, Group 1 contains the function of Attendee. Then, Group 2, contains the function of Organizer.

**Level 1:**

**Figure 6-4 : system integration on website (level 1)**

Edit profile

Manage SubEvent

Manage Prize

Prize winner

Register

Manage Badge

Register into the form

Log In

Manage Certificate

Confirm Register

Reset Password

Log Out

Manage Event

Manage Form

Manage OnSite

Manage Rating

Manage Email

Group #1

Group #2

Rate the event/subevent

Statistics

**Figure 6-5 : system integration on app (level 1)**

**Figure 6-5 : system integration on app (level 1)**

Log In

Rate event/subevent

Print badge

Scan barcode

Track attendee

Group #1

Group #2

At level two, we're going to combine each group component with each other. So, each group has its own functionality cooperating together of the end of the system.

**Level 2**:

**Figure 6-6 : system integration on website (level 2).**

Organizer privilege group #2

Register

Attendee privilege group #1

Confirm Register

Statistic

Manage Email

Reset password

Manage badge

Manage subevent

Manage form

Manage Onsite

Manage rate

Manage certificate

Manage event

Manage prize

Edit profile

Log out

Log In

Attendee Register into the form

Chose Prize winner

Attendee Rate the event/subevent

**Figure 6-7 : system integration on app (level 2).**

Organizer privilege

Log In

Attendee privilege

Print badge

Scan barcode

Rate event/subevent

Track attendee

At the last level, we're going to integrate the component of group one(functions of the attendee) with group two (functions of the organizer)to reach that all the system components integrated together **.**

**Level 3**:

**Figure 6-8 : system integration on website (level 3).**

Home page

Confirm Register

Register

Statistic

Manage Email

Prize winner

Reset password

Manage badge

Attendee Register into the form

Attendee Rate the event/subevent

Manage subevent

Manage form

Manage Onsite

Manage rate

Manage certificate

Manage event

Manage prize

Edit profile

Log out

Log In

**Figure 6-9 : system integration on app (level 3).**

**Figure 6-9 : system integration on app (level 3).**

Home page

Log In

Print badge

Track attendee

Scan barcode

Rate event/subevent

6.6 SUMMARRY:

After the sections completion of the implementation and integration chapter, we give a detailed description about the hardware and software used, the difficulties and main problems we faced while we are implementing our system and we mention the main functions with their code. Finally, the components of the system and how they integrated together.

CHAPTER 7

SYSTEM TESTING

7.1 INTRODUCTION:

In this chapter, we will describe the stages of testing the system. The purpose of this chapter to ensure that our website/application working as we predicted, effective, free of mistakes and problems and work under the requirements. Diverse tests will be under considerations which are: unit testing, integration and regression testing, performance and stress testing, user acceptance testing and test cases testing.

7.2 UNIT TESTING:

In this section the individual units of the main functions for the website/application will be tested to determine if it works properly and as predicted.

|  |  |  |  |
| --- | --- | --- | --- |
| **User** | **Component Name** | **Component description** | **Is working as expected?** |
| **Main function** | Component A | Register | Pass |
| Component B | Confirm register | Pass |
| Component C | Log in | Pass |
| Component D | Update profile | Pass |
| Component E | Log out | Pass |
| Component F | Forgot password | Pass |
| **Organizer** | Component G | Manage event | Pass |
| Component H | Add event | Pass |
| Component I | Edit event | Pass |
| Component J | Show event details | Pass |
| Component K | Manage Subevent | Pass |
| Component L | Add subevent | Pass |
| Component M | Edit subevent | Pass |
| Component N | Show subevent details | Pass |
| Component O | Manage badge | Pass |
| Component P | Add badge | Pass |
| Component Q | Edit badge | Pass |
| Component R | Manage prize | Pass |
| Component S | Add prize | Pass |
| Component T | Edit prize | Pass |
| Component U | Show prize details | Pass |
| Component V | Chose Prize winner | Pass |
| Component W | Manage Certificate | Pass |
|  | Component X | Add certificate | Pass |
| Component Y | Edit certificate | Pass |
| Component Z | Manage ,create, edit form | Pass |
| Component A1 | Manage onsite,onsiteRegister | Pass |
| Component B1 | Manage ,send email | Pass |
| Component C1 | Statistics | Pass |
| Component D1 | Manage rate | Pass |
| Component E1 | Manage track Attendee | Pass |
| **Attendee** | Component F1 | Register into form | Pass |
| Component G1 | Receive email | Pass |
| Component H1 | Rate event/subevent | Pass |

**Table 7-1: Unit Testing** **for website**

**Table 7-2: Unit Testing** **for app**

|  |  |  |  |
| --- | --- | --- | --- |
| **User** | **Component Name** | **Component description** | **Is working as expected?** |
| **Organizer** | Component A | Log In | Pass |
| Component B | Print badge | Pass |
| Component C | Scan barcode | Pass |
| Component D | Track attendee | Pass |
| **Attendee** | Component D | Rate event/suevent | Pass |

7.3 INTEGRATION AND INTERACTION TESTING:

**7.3.1 INTEGRATION TESTING:**

In the previous section, the components have been tested separately. We divided them into two groups, group 1 hold the components of Attendee and group 2 contains the components of Organizer. In this section, we will integrate the different components for the website and the application separately to ensure the correctness of the system as all and thus we integrate and test the component of the organizer with the main functions. After that, we integrate and test the attendee components. At the end to conclude the testing, the integration of group 1 is combined with group 2.

First, registration (main function) :

**Table7.3: integration testing for registration function** (**website**)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Test sequence** | | | |
| **Test number** | Test 1 | Test 2 | Test 3 | Test 4 |
| **Component** | Component A,B and C | Component of test1 with D | Component of test2 with E | Component of test3 with F |
| **Description** | Test registration with confirmation and log in. | Test update profile with component of Test 1 | Test log out with component of Test 2 | Test Forgot password with component of Test 3 |
| **Graph** | T1  C  B  A | T2  T1  D  C  B  A | T3  E  D  T2  T1  C  B  A | T4  T3  T2  F  E  D  T1  C  B  A |
| **Status** | Pass | Pass | Pass | Pass |

Second, group 2 (Organizer user):

**Table7.4:integration testing for Organizer.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Test sequence** | | | |
| **Test Number** | Test 5 | Test 6 | Test 7 | Test 8 |
| **Component** | Component G,H,I,J | Component K,L,M,N | Component O,P,Q | Component R,S,T,U,V |
| **Description** | Test manage ,add, edit, show details of event. | Test manage ,add, edit, show  details of subevent with Test5 | Test manage ,add, edit,  badge with Test6 | Test manage,add,edit,show details, chose winner of prize with Test7 |
| **Graph** | T5  J  I  H  G | N  L  M  T6  K  T5  J  I  H  G | I  K  N  M  L  T6  T5  J  H  G  T7  O  P  Q | U  T  S  R  V  P  Q  O  N  L  M  K  T8  T7  H  T6  T5  J  I  G |
| **Status** | Pass | Pass | Pass | Pass |

**Table7.5:integration testing for Organizer-1**

|  |  |  |
| --- | --- | --- |
|  | **Test sequence** | |
| **Test Number** | Test 9 | Test10 |
| **Component** | Component of Test 8 and W,X,Y | Component of Test 9 and Z. |
| **Description** | Test Manage, add, edit certificate with Test8 | Test Mange, create, edit form with Test9 |
| **Graph** | P  Q  T9  Y  X  W  I  H  G  T8  T7  T6  T5  J  O  V  N  L  M  K  R  S  T  U | T10  Z  I  H  G  T6  T5  J  L  T7  P  K  T9  Y  X  W  T8  Q  O  N  M  V  U  T  S  R |
| **Status** | Pass | Pass |

|  |  |  |
| --- | --- | --- |
|  | **Test Sequence** | |
| **Test Number** | Test 11 | Test 12 |
| **Component** | Component of Test 10 with A1. | Component of Test11 with B1. |
| **Description** | Test manage onsite,onsiteRegister with component of Test10 | Test manage, send email with component of Test11 |
| **Graph** | T7  T10  T11  Z  A1  T9  Y  X  W  T  T8  V  U  S  R  T6  Q  P  O  N  L  M  K  H  T5  G  J  I | T7  T9  T10  T12  B1  T11  A1  Z  Y  X  W  T8  V  U  T  S  R  T6  Q  P  O  N  L  M  K  I  H  G  T5  J |
| **Status** | Pass | Pass |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Test Sequence** | | |
| **Test Number** | Test13 | Test14 | Test15 |
| **Component** | Component of Test12 with C1. | Component of Test13 with D1. | Component of Test14 with E1. |
| **Description** | Test Statistics with component of Test12 | Test Manage rate with component of Test13 | Test Manage track attendee with component of Test14 |
| **Graph** | T5  T6  T7  W  T13  A2  T8  V  U  T  S  R  Q  O  P  N  L  M  K  J  I  H  G | T5  T6  T7  T13  A2  W  T8  V  U  T  S  R  Q  O  P  N  L  M  K  G  I  H  J | T5  T6  T7  T8  V  W  U  T  S  R  Q  O  P  N  L  M  K  G  I  H  J |
|  | T12  B1  T9  A1  Z  T10  T11  Y  X  T13  C1 | T14  T13  D1  C1  T12  B1  T11  T10  T9  A1  Z  Y  X | T15  T14  T13  E1  D1  C1  T12  T11  T10  T9  B1  A1  Z  Y  X |
| **Status** | Pass | Pass | Pass |

**Table7.6: integration testing for Attendee**

|  |  |  |
| --- | --- | --- |
|  | **Test sequence** | |
| **Test Number** | Test16 | Test17 |
| **Component** | Component of F1 and G1 | Component of Test16 and H1 |
| **Description** | Test receive email and register into the form | Test rate the event/subevent |
| **Graph** | T16  G1  E1 | T17  H1 |
| **status** | Pass | Pass |

**Table7.7:integration testing for Organizer on application**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Test sequence** | | | |
| **Test Number** | Test 1 | Test 2 | Test 3 | Test 4 |
| **Component** | Component A | Component of Test1 with B | Component of Test2 with C | Component of Test3 with D |
| **Description** | Test Log In | Test print Badge with Test1 | Test Scan barcode with Test2 | Test Track attendee with Test3 |
| **Graph** | T1  A | T2  T1  B  A | T4  C  T2  T1  B  A | T4  T3  D  C  T2  T1  B  A |
| **Status** | Pass | Pass | Pass | Pass |

**Table7.8: integration testing for Attendee on application**

|  |  |
| --- | --- |
|  | **Test sequence** |
| **Test Number** | Test5 |
| **Component** | Component D |
| **Description** | Test Rate event/subevent |
| **Graph** | D  T5 |
| **Status** | Pass |

Now we insure that all the components are working successfully after the integration had been done.

**7.3.2 REGRESSION TESTING:**

Regression testing is the process of testing changes to the system to make sure that the older function still works with the new changes. We applied the regression testing after any required changes been done to ensure that the system still workable.

# 7.4 PERFORMANSE AND STRESS TESTING:

Performance Testing is a type of testing to ensure software applications will perform well under their expected workload. Furthermore, stress testing is used to test the reliability of the system. Also, it determines the system error handling under extremely heavy load and unusual conditions. <https://www.guru99.com/performance-testing.html>

**7.4.1 PERFORMANCE TESTING:**

Under this section, we will show the memory usage space, the storage, and the disk allocation that the application takes for monitoring the performance and the behavior of the Android application.

1. Memory usage for application :

In Figure 7.1, [33 MB] shows the average usage for the application memory with the [292MB] maximum of usage and [48%] frequency.

**Figure7-1: Application memory use**



1. Disk Allocation for application :

"تكتيك" used 10.52 MB of the disk, which makes it appropriate and suitable for use comparing with other applications.

**Figure7-2: Disk Allocation**

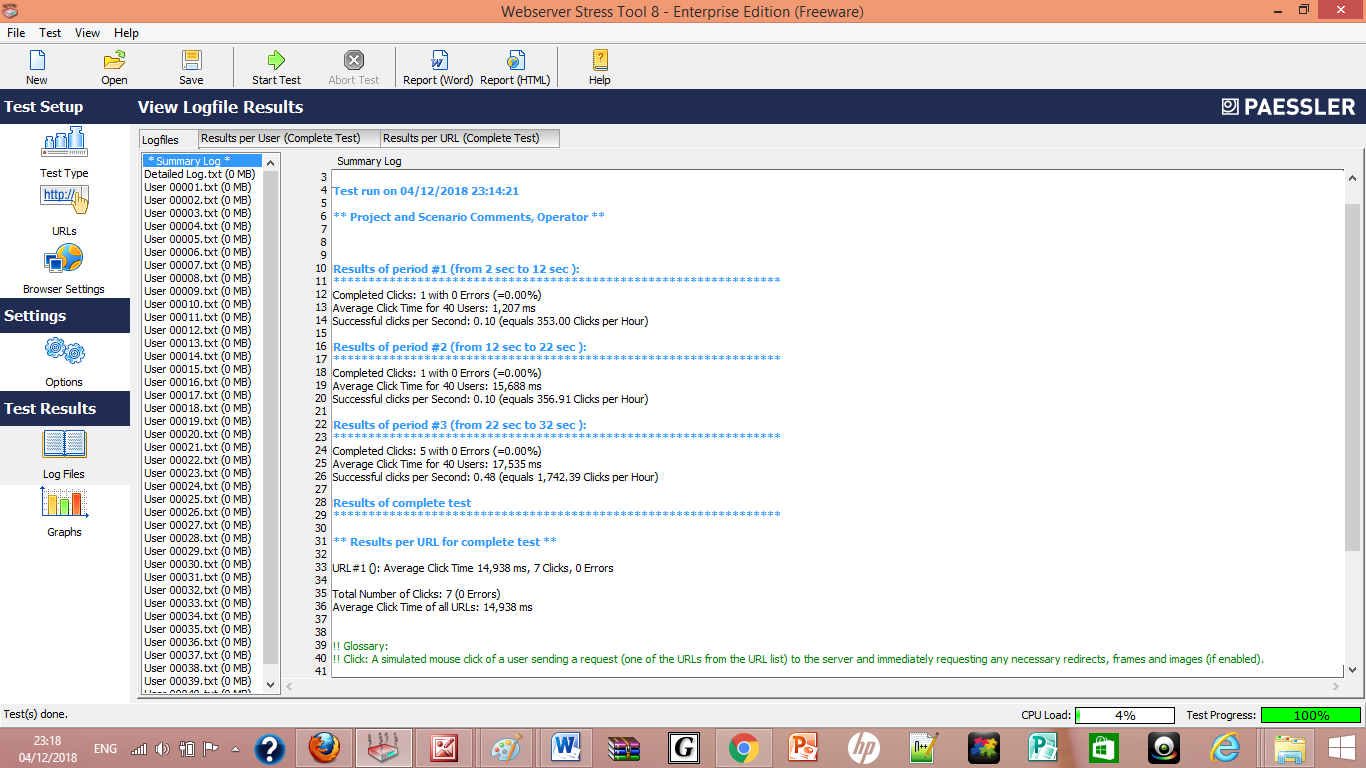


* + 1. **STRESS TESTING:**

On the other hand for the website, Web Server Stress tool was used to identify if there is any tolerate stress and to monitor the percentage of the site to withstand the pressure.

1. Stress testing for website :

To determine whether the website afford the pressure or not, we assumed that it was used by 40 users so on the result was satisfying and the rate of error is negligible.



**Figure7-3: stress testing for website**

Customarily, when our website handles objects such as images, it should keep track of these objects to reduce the number of possible errors as possible. This figure show handling the loading of images and its effect on the website.

****

**Figure7-3: Times and errors for website**

* 1. USER ACCEPTANCE TESTING:

User acceptance testing (UAT) is the last phase of the software testing process. During UAT, actual users test the system to make sure it can handle required tasks according to specifications and to ensure the correctness of the entire system before release it. Also, to obtain satisfaction for users depending on effectiveness and efficiency after testing the system.

<https://usersnap.com/blog/user-acceptance-testing-right/> ريفرينس يا هالة

The number of users who participated in the acceptance testing is six: three of them represent the role of the organizer and the others represent the attendee for both the website and application. The ages of the participants are between 22-27.

Group1 (organizer):

**Table7.9: organizer ages and genders**

|  |  |  |
| --- | --- | --- |
| **Participant number** | **Age** | **Gender** |
| **1** | 23 | Female |
| **2** | 25 | Female |
| **3** | 24 | Female |

**Table7.9: Measure system effectiveness (organizer)**

|  |  |  |
| --- | --- | --- |
| **Tasks** | **Average number of errors** | **Average time in seconds** |
| **Register** | 0.5 | 58.6 |
| **Log In** | 0 | 24.5 |
| **Reset password** | 0 | 40.4 |
| **Edit profile** | 0 | 57.9 |
| **Manage event** | 0.3 | 60.0 |
| **Manage subevent** | 0 | 58.9 |
| **Manage badge** | 0.3 | 55.4 |
| **Manage prize** | 0.1 | 59.9 |
| **Manage certificates** | 0.2 | 64.3 |
| **Manage form** | 0 | 65.9 |
| **Manage onsite registration** | 0 | 50.3 |
| **Manage email** | 0 | 70.5 |
| **Statistics** | 0 | 44.5 |
| **Manage rate** | 0 | 23.7 |
| **Manage track attendee** | 0.3 | 49.3 |
| **Log out** | 0 | 22.1 |

From the previous readings, we can identify which functions causes the test to be under some errors, manage register, manage event, manage badge, manage certificates, manage prize, manage track attendee ,but in the other hand, it never occur any error. Also, we can see in manage email, manage form, manage certificate that the highest time required to complete the functions is between 65-74 seconds, however the system will be adequate and convenient.

**Table7.10: attendee ages and genders**

|  |  |  |
| --- | --- | --- |
| **Participant number** | **Age** | **Gender** |
| **1** | 22 | Female |
| **2** | 24 | Female |
| **3** | 25 | Female |

**Table7.11: Measure system effectiveness (Attendee)**

|  |  |  |
| --- | --- | --- |
| **Tasks** | **Average number of errors** | **Average time in seconds** |
| **Register into form** | 0 | 22.6 |
| **Receive email** | 0 | 60 |
| **Rate event/subevent** | 0 | 45 |

The table above shows the possibility of attendee's errors that may occur while the testing phase. We can see that the test was conducted without error during an effective period of time and full user satisfaction.

* 1. TEST CASES:

This section show a scenario about each test case of the system to display how the functionalities operate .The first scenario will describe the application test cases.

**7.6.1 Log In**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Description** | This case displays the ability of the user to log in into the application. | | | | |
| **Test case** | **Test data** | **Action** | **Expected result** | **Actual result** | **Result** |
| **If the organizer fills all the field with valid input.** | Email :  halameer1@gmail.com  Password: correct password | Press "تسجيل الدخول" | The system will redirect the organizer to the application home page with welcome message. |  | Passed successfully |
| **The home page after entering the correct information** | **Email :** correct email  **Password** : correct password | After pressing  "تسجيل الدخول" | message "تم تسجيل الدخول بنجاح" with options to do. |  | Passed successfully |
| **If the organizer enters wrong email, invalid format or miss the extension of it with correct** password. | **Email :** miss to complete the extension  **Password:** correct password | Press "تسجيل الدخول" | An error message will appear ask the organizer to fill the field correctly |  | Passed successfully |
| **If the user enter invalid email or password** | Email : invalid information  Password: invalid information | Press "تسجيل الدخول" | An error message will appear. |  | Passed successfully |
| **If the user press "تسجيل الدخول" with empty fields.** | Empty fields with no information | Press  "تسجيل الدخول" | Error message aske the user to enter the missing information |  | Passed successfully |
| **If the organizer** **enters valid email and miss to write the password** | **Email :** correct email  **Password** : null | Press "تسجيل الدخول" | Error message ask the organizer to enter the password |  | Passed successfully |

**7.6.2 Rate event**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Description** | This case displays the ability of the attendee rate the event. | | | | |
| **Test case** | **Test data** | **Action** | **Expected result** | **Actual result** | **Test data** |
| **If the organizer clicks " حدث رئيسي"**  **button from the home page this window will appear ask the user for choosing "مسح باركود" or**  **"تقييم"** | drop down list for "الحدث الرئيسي"  Allow the user to rate event or scan the barcode for track the attendee. | After Pressing  "تسجيل الدخول" | Message Displays to the organizer the current event with two buttons to select. | A screenshot of a cell phone  Description automatically generated | Passed successfully |
| **choose a face for rating** | Happy yellow face will be display after  The attendee chooses a face for rating the selected event and click "تسليم" | Press  "تسليم" | A thanks message will appear and the faces will return to the original grey colour. |  | Passed successfully |

**7.6.3 Scan QR barcode**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Description** | This case displays the ability of the organizer scan QR barcode. | | | | |
| **Test case** | **Test data** | **Action** | **Expected result** | **Actual result** | **Test data** |
| **If the organizer clicks a "مسح باركود" button** | Make scanning for attendee id "187" that register in event successfully | Make scan for attendee id "187" | A welcome message will appear and ask attendee if he want to print his badge or not |  | Passed successfully |
| **If the user clicks a "نعم" button** | Make scanning for attendee id "187" that register in event successfully | Click "نعم" button | New page will open and display badge of attendee with "طباعة" button | **A screenshot of a cell phone  Description automatically generated** | Passed successfully |
| **If the user clicks a "طباعة" button** | Badge image for "رنا" attendee to print | If the user clicks a "طباعة" button | Print page will open and make connection on printer that on the same WIFI which mobile connected with.  After connection establish  new page will open and  display setting of connected printer, the organizer should choose from "حجم الورقة"  "A6" or "Hagaki"  Then click on yellow printer icon to print | **A close up of text on a white background  Description automatically generatedA screenshot of a cell phone  Description automatically generated** | Passed successfully |
| **If the organizer retries to scan barcode, he scanned before.** | Make scanning again for attendee id "187" that register in event successfully | Make scanning again for attendee id "187" | A message will appear tells attendee that he checks his attended before. | **A screenshot of a cell phone  Description automatically generated** | Passed successfully |
| **If the organizer scan barcode for attendee not registered in selected event but he registered in another event before** | Make scanning for attendee id "183" that register in another event successfully | Make scanning for attendee id "183" | A message will appear tells attendee  (with his name) that he is not registered in this event before. | **A close up of a sign  Description automatically generated** | Passed successfully |
| **If the organizer scan barcode for attendee not registered in selected event.** | Make scanning for attendee id "180" that is not registered in any event before. | Make scanning for attendee id "180" | A message will appear tells attendee  that he is not registered in this event before. | **A sign on the screen  Description automatically generated** | Passed successfully |
| **If the organizer press on menu icon in the top of home page, then choose "تسجيل الخروج"** | choose "تسجيل الخروج" from menu icon in the top | Press menu icon then choose "تسجيل الخروج" | Log out successfully and redirect to the log in page | **A screenshot of a cell phone  Description automatically generatedA screenshot of a cell phone  Description automatically generatedA screenshot of a cell phone  Description automatically generated** | Passed successfully |

Now, the cases under this part willdescribe the website test cases.

**7.6.4 Register into the website**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Description** | This case starts when the user wants to register into the website. | | | | |
| **Test case** | **Test data** | **Action** | **Expected result** | **Actual result** | **result** |
| **Leave empty fields** | The user leaves some or all fields empty | Press "تسجيل" | Restriction under each required field alert the user to complete the empty one |  | Passed successfully |
| **Leave empty field or enter invalid password** | The user leaves the password field empty or enter invalid password | Press "تسجيل" | Restriction under each required field alert the user to fill with correct format. |  | Passed successfully |
| **Enter invalid input** | The user enter invalid date of birth | Press "تسجيل" | A prompt message will notify the user that the age must exceed 18 |  | Passed successfully. |
| **Invalid input** | The user enters invalid input (number of letters exceed the allowable number ) | Press "تسجيل" | Restriction under the field alerts the user to fill with correct format. |  | Passed successfully |
| **Invalid input** | The user enters invalid input (incorrect email pattern ) | Press "تسجيل" | Restriction under the field alerts the user to fill with correct email format. |  | Passed successfully |
| **Enter valid input** | The user enters valid input. | Press "تسجيل" | A prompt message will notify the user that the registration done successfully with a confirmation message sent to the email. |  | Passed successfully. |
| **Reset password** | The user enters reset password | Press "استعادة كلمة المرور" | Case1: ask the user to enter the email ,  case2: message prompt the user that an email sent ,  Case3: the email window , then the reset page ask the user to enter new password |  | Passed successfully |
| **Edit profile** | After the user correctly editing the profile information. | Press "تعديل" | A message will tell the user that the profile edited successfully |  | Passed successfully. |

**7.6.5 Manage Event:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Description** | This test case starts when the user trying to search, add, edit and show details an event | | | | |
| **Test case** | **Test data** | **Action** | **Expected result** | **Actual result** | **result** |
| **Valid information for event** | The user enters valid information to add event | Press "اضافة" | The event will added successfully |  | Passed successfully |
| **Show the details of an event** | The user shows event details after it has been added | Press on the event name "معرض الكتاب" | The event details will be displayed. |  | Passed successfully |
| **Delete an event** | The user will be able to delete the event | Press on the red trash to complete the deletion | A confirmation message will pop and the event will be deleted. |  | Passed successfully |
| **Enter invalid date** | If the user add an invalid date . | Press on "اضافة / تعديل" | An error message will alert him to check the entered date |  | Passed successfully |
| **Enter invalid date** | If the user add an invalid date(date of the start was after date of the end) | Press on "اضافة / تعديل" | An error message will alert him to check the entered date |  | Passed successfully |
| **Search for an event that does not exist before.** | If the user enters a name for an event that is not added before. | Press "بحث" | An alert message showing that there is no match result. |  | Passed successfully. |

**7.6.6 Manage subevent**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **description** | This test case starts when the user trying to search, add, edit and show details of a subevent.Hint the (add, edit, search, delete) are the same at manage event**.** | | | | |
| **Test case** | **Test data** | **action** | **Expected result** | **Actual result** | **result** |
| **Valid information for subevent** | The user enters valid information to add subevent for an existed event | Press "اضافة" | The subevent will added successfully |  | Passed successfully. |
| **Show the details of a subevent** | The user shows subevent details after it has been added | Press on the subevent name "معرض الكتاب" | The subevent details will be displayed. |  | Passed successfully. |
| **Leave empty fields** | The user leaves some or all fields empty | Press "اضافة" | Restriction under each required field alert the user to complete the empty one |  | Passed successfully. |

**7.6.7 Manage badge**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Description** | This test case starts when the user trying to add, edit a badge. | | | | |
| **Test**  **Case** | **Test data** | **Action** | **Expected result** | **Actual result** | **result** |
| **Select and chose valid input.** | If the user select event name and chose a specific badge type | Press "اضافة**"** | Redirect the user to complete the adding badge function |  | Passed successfully |
| **Select and chose valid input.** | default values will be assigned to all fields and the user will be able to change them manually | Press "حفظ" | The badge has been added and saved successfully |  | Passed successfully |
| **View badge** | If the user press view from previous page. | Press "معاينة" | The user will be able to print the badge. |  | Passed successfully |
| **Repeat the same action** | Adding another badge for an event that already has one. | Press "اضافة" | An error message will alert the user that the event has a badge before. |  | Passed successfully |
| **Chose invalid input** | If the user chose a file with incorrect type. | Press "choose file" | An error message will alert the user to check the type of the file. |  | Passed successfully |
| **Chose inappropriate input.** | If the user chose a file with incorrect size. | Press "choose file" | An error message indicated to the accepted file size will appear. |  | Passed successfully |

**7.6.8 Manage certificate:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Description** | This test case starts when the user trying to add, edit a certificate. | | | | |
| **Test case** | **Test data** | **Action** | **Expected result** | **Actual result** | **result** |
| **Select and chose valid input.** | default values will be assigned to all fields and the user will be able to change them manually | Press "حفظ" | The certificate has been added and saved successfully |  | Passed successfully |
| **Add valid input** | If the user choose a file to add. | Press "حفظ" | An image will appear and the user will be able to drag the information and drop them on the image to complete the addition function. |  | Passed successfully |
| **Forgot an action** | If the user forgot selecting a file. | Press "حفظ" | Restriction under the field will alert the user about the error |  | Passed successfully |
| **Repeat the same action** | Adding another certificate for an event that already has one. | Press "اضافة" | An error message will alert the user that the event has a certificate before. |  | Passed successfully |
| **Chose invalid input** | If the user chose a file with incorrect type. | Press "choose file" | An error message will alert the user to check the type of the file. |  | Passed successfully |

**7.6.8 Manage form**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **description** | This test case starts when the user trying to add a form for an event. | | | | |
| **Test case** | **Test data** | **action** | **Expected result** | **Actual result** | **result** |
| **Select and chose valid input.** | If the user wants to select information to create a form. | Press "إضافة" | Menu with tow mandatory fields will appear and the user will be able to select any other field to create the form |  | Passed successfully |
| **Add new option** | If the user wants to add new optional filed to the menu with new nonexistent information between the options | Press "إضافة" | New field will be added. |  | Passed successfully |
| **Validate an action** | If the user choose the information from the previous page to generate the form | After pressed "إضافة" | A link will be generated to be used later by the attendee to register into an event. |  | Passed successfully |
| **Validate an action** | If the user click the link from the previous page. | After click the link | A form will be created includes the selected information which will be used later to allow the attendee to register into an event. |  | Passed successfully |

**7.6.9 Manage prize:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **description** | **This test case starts when the user wants to** | | | | | | |
| **Test case** | **Test data** | **Action** | | **Expected result** | | **Actual result** | **result** |
| **Valid information for event** | If the user wants to add a prize for a specific event. | Press "إضافة جائزة" | | A prize will be added after select the number of prize and the event/subevent name. | |  | Passed successfully |
| **Validate an action** | If the user choose the prize winners. | | Press "اختيار الفائزين" | | The prize winners will be displayed with brief information about them |  | Passed successfully |
| **Repeat the same action** | Adding another prize for an event that already has one. | | Press "اضافة" | | A notify message will alert the user that the action is already done before. |  | Passed successfully |

**7.6.10 Manage email:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Description** | | This test case starts when the user wants to send an email to an attendee | | | | |
| **Test case** | | **Test data** | **Action** | **Expected result** | **Actual result** | **result** |
| **Validate an action** | If the user wants to send an email to the attendees after choosing their type | Press on the type of the attendees (ارسال بريد للجميع,للاشخاص العاديين,للاشخاص المهمين) | The user will be able to choose The type of the attendees for sending the email. |  | Passed successfully |
| **Send an email** | If the user wants to  Send an email. | Press "ارسال" | A page will include the type of the attendee and a text editor for edit the message. |  | Passed successfully |
| **Validation message** | If the user send the email successfully | After pressed "ارسال" | The message will be send successfully |  | Passed successfully |

**7.6.11 Manage statistic:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **description** | This test case starts when the user trying to display a statistics for an event/subevent | | | | |
| **Test case** | **Test data** | **action** | **Expected result** | **Actual result** | **result** |
| **Enter valid input** | If the user enter valid input to see the statistics for an event/subevent | press "مشاهدة الاحصائيات" | The user will be able to choose one of the measures to make the statistic according to it. |  | Passed successfully |
| **Enter valid input** | If the user enter valid input to see the statistics for an event/subevent | press "مشاهدة الاحصائيات" | A diagram will explain the statistic for the selected event. |  | Passed successfully |

**7.6.12 Manage Rate:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **description** | This test case starts when the attendee trying to rate the event/subevent | | | | |
| **Test case** | **Test data** | **Action** | **Expected data** | **Actual data** | **result** |
| **choose valid input** | If the user choose a name for an event/subevent to rate them | Press "تقييم" | The attendee will select the name of an event/subevent for rate. |  | Passed successfully |
| **choose valid input** | If the attendee select one of the rating faces. | Press "تقييم" | the rating will be done and a message will show that the rating finished successfully |  | Passed successfully |

Chapter 8

Conclusion

8. Conclusion:

In this document, each part of the project was explained separately to be a useful reference later for every user of "تكتيك".

According to some previously mentioned problems, we decided to produce "تكتيك" system to help event organizers to organize their events by managing it remotely. It saves the effort, time and money to the organizers since it will automate the events registration and management tasks. Also, it will offer highly valuable information to the event organizer by utilizing the QR in the registration.

"تكتيك" designed completely in Arabic to make it more comprehensible and allow each organizer company for any event to register and modify their accounts. Furthermore, to use our system as an advance approach to organize events in a clear way and make them effective for attendee and to be as an active member at the events. Also, the system will provide a link about the event offered with valuable and sufficient information provided for all people who wants to be as a part at any event organizes by the organizer companies.

In the other hand, our application allows the responsible about the events to scan the barcodes owned by the attendee and print out ID cards containing information about each attendee. Moreover, the website includes plentiful services we have mentioned above in details like allow the organizer companies to register into the system and print the badges for the attendee and volunteers in Arabic, send automatic questionnaires to attendee at the end of the event, offer reports and do instantaneous statistics to describe the event after it’s over and advertise the events in the social network. These features make the participation for any event easier and available with more and more services.

**8.1 LOCAL IMPACT:**

"تكتيك" provides many services to the organizer that facilitate the management processes and enable the organizer to use a smart events management system that enables him to automate management registration, print the badges for the attendees, keep track on delights attendees in the event, and give the right analytics tools to prove the value of the organizer events.

**8.2 Global Impact:**

Our system created to help event organizers around the Arab world to organize their events. Since "تكتيك" will smarty automated the events registration and management tasks, expanding its scope by supporting English language might not be hard to achieve and will make the system beneficial globally.

**8.3 CHALLENGES AND PROBLEMS ENCOUNTERED:**

Through the development, there were many challenges encountered, most of them were during the implementation and testing stages.

* Using android studio was not very contributory and involved with our requirements, it leads to lose time on learning how to use it and on waiting for the response being accepted and performed from the tool.
* After publishing the website we have faced many problems, one of them was that the response of sending email function not working as expected but the problem was solved later after communicating with GMAIL support.
* Dealing with two different platforms was an issue in choosing the database for our project.
* Most of the programming languages support the websites which designed in English language, as we see that "تكتيك" developed in Arabic so this was a problem to find and understand functions serving us to complete our system.

**8.4 Limitation and future works:**

During this time the scope of our system does not exceed Riyadh city, its efficiency will make it published as possible as fast. Also, we will be looking forward in the future to developing our system more and more and we desire to achieve:

* Develop a version of “تكتيك” for IOS platforms.
* Releasing the application in English language.
* Integrate our system with (GPS) system.
* Add more features and integrate it with our systems' functionality like location-based advertising for SMS messages.
* Improve the response time and the performance to be as faster as can .

**8.5 Project contribution to scientific knowledge**

* Providing a website and application supported in Arabic was a technical and scientific solution for users who speak only Arabic.
* The advantage of statistics after using certain procedures is that they fall under the user's choice of a certain factor and our system was supported implicitly without the need to use any external tool to calculate the proportion of specific factor.

APPENDICES

Appendix A

A.1 HARDWARE AND SOFTWARE TOOLS

**HARDWARE**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Device** | **Quantity** | **Description** |
| **1** | Windows laptop | 5 | Used for developing the application and website |
| **2** | Android mobile | 1 | To test the application |
| **3** | Printer | 1 | To test the system and print the project document |

**Table A.1: Hardware specification**

**SOFTWARE:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Software** | **Developer** | **Version** | **Description** |
| Dropbox | Dropbox, Inc |  | Used to store our project and project document |
| MS Office Word | Microsoft | 2016 | To write our documentation |
| phpMyAdmin | ThephpMyAdmin Project | 5.6.30 | A tool to manage MySQL database by creating, modifying or deleting tables or row |
| Xampp | Apache Friends | - | Used to create a local web server for testing purposes. |
| Android studio and android  SDK | Andrew | - | To implement the application. |
| GitHub | GitHub, Inc. | - | A Git repository hosting server. |

**tableA.2: software specification**

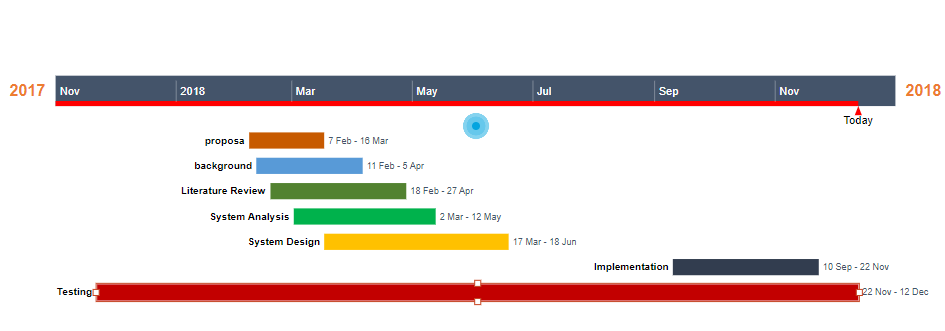
**A.2 COST (IF APPLICABLE):**

Web hosting: 161 SR

**A.3 TIMELINE:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Duration** | **Start** | **Finish** |
| Introduction (Proposal) | 4 days | Wednesday, 7  Feb | Sunday 11 February |
| Background | 7 days | Sunday 11 Feb | Sunday 18 February |
| Literature Review | 11 days | Sunday 18 Feb | Wednesday 1 March |
| System Analysis | 15 days | Wednesday 1 Mar | Thursday 16 March |
| System Design | 22 days | Thursday 16 Mar | Saturday 7 April |
| Implementation | 80 days | Monday 10 Sep | Monday 22 Nov |
| Testing | 27 days | Monday 22 Nov | Wednesday 12 Dec |
| Documentation | 17 days | Friday 16 Nov | Wednesday 12 Dec |

**Table A.3: Timeline**

** Figure A.3: Timeline**

**6.5.2 ROLES AND RESPONSIBILITIES:**

|  |  |  |
| --- | --- | --- |
| **Role** | **Responsibilities** | **Participant(s)** |
| Supervisor | * Review phases. * Direct the group. | Dr. Bedour Alrayes |
| leader  Leader | * Organize and manage meetings. * Communicate with supervisor. * Collect group's work. * • Submit deliverables on time. | All team's member  Marwa Salahi |
| Academic writer | * Background * Literature Review | All team's member  All team's member |
| System Analyst | * Gather requirements. * Write the SRS document. * Design the system models. | All team's member |
| System Designer | * Draw the Architecture Design. * Design the interface. | All team's member |
| Application developer | * implement java code * Integrate all functions. | Hala Mera |
| Website developer | * Implement code * Integrate all functions. | All team's member |
| Tester | * All type of testing * Full fit the requirements. | All team's member |

**Table A.3: Role and responsibilities**