Lab No: Project Part 5

Lab Title: Program and deploy a Database-Driven Web Application

Objective: At the end of the lesson, students will be able to develop and deploy a database-driven web application to implement the functional requirements in accordance with the application requirements specification
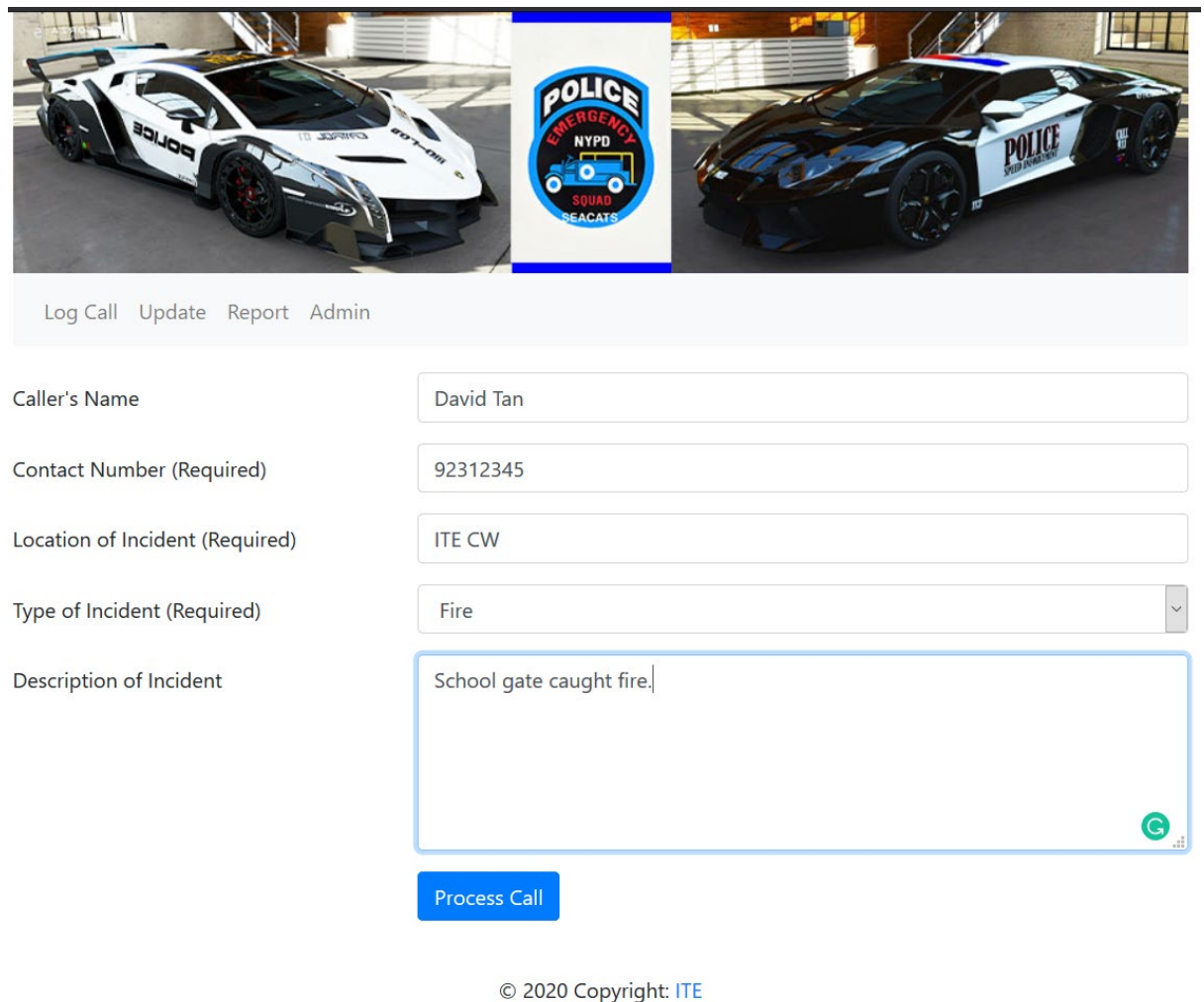
Resources:

1.   Development Computer.

2.   Apache server, MySQL, and phpmyadmin

3.   Code editor.

Procedures:

   logcall.php

4.   You will create **logcall.php** that allows the operator to enter and submit details of each call received to **dispatch.php** though the web interface in Figure 1:

Figure 1

5. Upon receiving a call, the operator will enter the above details on the **Log Call** panel, click the **Process Call…** button to submit the form to **dispatch.php** for dispatching patrol cars.

6. In your code editor, create a new file called **logcall.php** and add the code to create a web form as shown, recall your HTML lessons:

```
 1 <!doctype html>
 2 <html>
 3   <head>
 4     <meta charset="utf-8">
 5     <title>Log Call
 6     </title>
 7     <link href="css/bootstrap-4.3.1.css" rel="stylesheet" type="text/css">
 8     <style type="text/css">
 9     </style>
10   </head>
11   <body>
12     <div class="container" style="width: 930px">
13       <header>
14         <img src="images/banner.jpg" width="900" height="200" alt="" />
15       </header>
16       <?php
17         require_once 'nav.php';
18         ?>
19       <section style="margin-top: 20px">
20         <form action="dispatch.php" method="post">
21           <div class="form-group row">
22             <label for="callerName" class="col-sm-4 col-form-label">Caller's
23               Name
24             </label>
25             <div class="col-sm-8">
26               <input type="text" class="form-control" id="callerName"
27                      name="callerName">
28             </div>
29           </div>
30           <div class="form-group row">
31             <label for="contactNo" class="col-sm-4 col-form-label">Contact
32               Number (Required)
33             </label>
34             <div class="col-sm-8">
35               <input type="text" class="form-control" id="contactNo"
36                      name="contactNo">
37             </div>
38           </div>
39           <div class="form-group row">
40             <label for="locationOfIncident" class="col-sm-4 col-form-label">
41               Location of Incident (Required)
42             </label>
43             <div class="col-sm-8">
44               <input type="text" class="form-control" id="locationOfIncident"
45                      name="locationOfIncident">
46             </div>
47           </div>
```

```
48      <div class="form-group row">
49          <label for="typeOfIncident" class="col-sm-4 col-form-label">
50            Type of Incident (Required)
51          </label>
52          <div class="col-sm-8">
53            <select id="typeOfIncident" class="form-control"
54                    name="typeOfIncident">
55              <option value="">Select</option>
56            </select>
57          </div>
58      </div>
59      <div class="form-group row">
60          <label for="descriptionOfIncident" class="col-sm-4 col-form-label">
61            Description of Incident
62          </label>
63          <div class="col-sm-8">
64            <textarea name="descriptionOfIncident" class="form-control"
65                      rows="5" id="descriptionOfIncident">
66            </textarea>
67          </div>
68      </div>
69      <div class="form-group row">
70          <div class="col-sm-4">
71          </div>
72          <div class="col-sm-8">
73            <input class="btn btn-primary" name="btnProcessCall" type="submit"
74                   value="Process Call">
75          </div>
76      </div>
77    </form>
78  </section>
79  <footer
80      class="page-footer font-small blue pt-4
81             footer-copyright text-center py-3">
82      Â© 2020 Copyright:
83      <a href="https://www.ite.edu.sg"> ITE </a>
84  </footer>
85  </div>
86  <script type="text/javascript" src="js/jquery-3.3.1.min.js">
87  </script>
88  <script type="text/javascript" src="js/popper.min.js">
89  </script>
90  <script type="text/javascript" src="js/bootstrap-4.3.1.js">
91  </script>
92 </body>
93 </html>
```
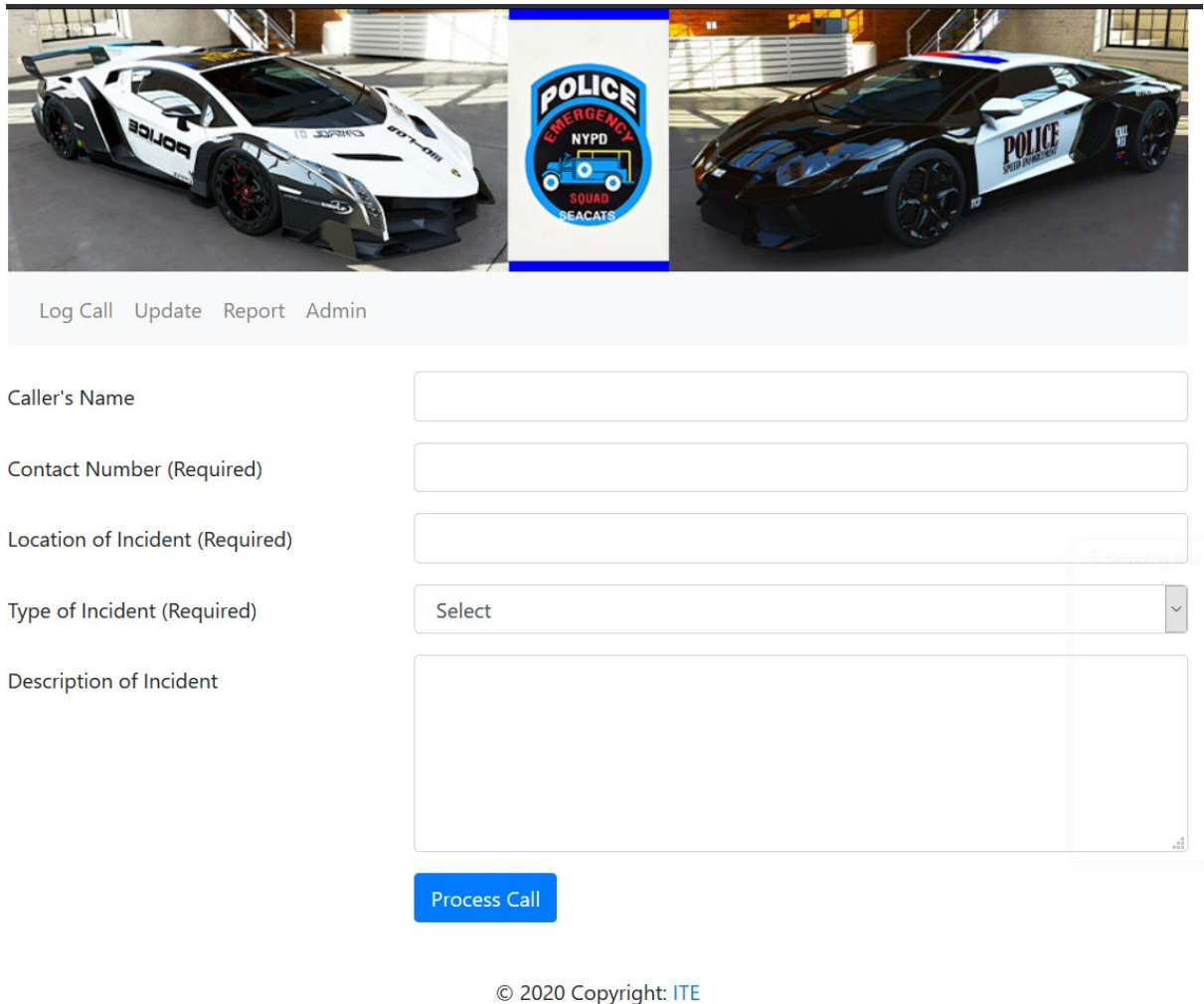
Log call Panel

Caller's Name : _____

Contact No : _____

Location : _____

Incident Type : ▾

Description : _____

Reset   Process Call...

7.   The code above will render a screen in the browser as shown:

8.   Even then, the input drop down box remains empty. The options of this drop down box are to be obtained from the database, NOT hardcoded! These options have to be retrieved from one of the tables in the database so that they be populated in the drop down box when the page is rendered. Now, you will do it…

9.   Figure out which table to retrieve the incident type data, then write the code to retrieve the data, remember to include the valid connection parameters for your database server, this code has to be executed before the web form is being rendered.

```php
 1 <?php
 2     require_once 'db.php';
 3     $conn = new mysqli(DB_SERVER, DB_USER, DB_PASSWORD, DB_DATABASE);
 4     $sql = "SELECT * FROM incident_type";
 5     $result = $conn->query($sql);
 6     $incidentTypes = [];
 7     while ($row = $result->fetch_assoc()) {
 8         $id = $row['incident_type_id'];
 9         $type = $row['incident_type_desc'];
10         $incidentType = ["id" => $id, "type" => $type];
11         array_push($incidentTypes, $incidentType);
12     }
13     $conn->close();
14 ?>
15 <!doctype html>
16 <html>
```

10.   Having successfully retrieve the incident type data, write the code to populate the data to the drop down box?

```html
<select id="typeOfIncident" class="form-control"
        name="typeOfIncident">
  <option value="">Select
  </option>
  <?php
      for ($i = 0;$i < count($incidentTypes);$i++) {
          $incidentType = $incidentTypes[$i];
          echo '<option value="' . $incidentType['id'] . '">' .
              $incidentType['type'] . '</option>';
      }
  ?>
</select>
```

11.   Notice, you have to weave in and out of PHP code and HTML code. Contrast this with the plain <select> syntax in browser view source will help you understand. Explain the above code in the box below:

12.   Test your work in a browser, you should see the incident type drop down box working as shown:

Caller's Name

Contact Number (Required)

Location of Incident
(Required)

Type of Incident (Required)   Select

                                     Select

Description of Incident   Fire

                                     Riot

                                     Burglary

                                     Domestic Violent

                                     Fallen Tree

13.   Is it done for **logcall.php**? Not so fast. What if the operator forgets to enter some fields, do you still allow the form to be submitted. NO! You have to put in code to check the validity of the user inputs before allowing the form data to be submitted to the server. For example, in case the operator did not enter the caller name:

14.   Remember JavaScript? Do it now!

```
<script type="text/javascript">
function validateForm()
{
    var x=document.forms["frmLogCall"]["callerName"].value;
    if (x==null || x=="")
    {
        alert("Caller Name is required.");
        return false;
    }
    // may add code for validating other inputs
}
</script>
```

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function validateForm()
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        var x=document.forms["frmLogCall"]["callerName"].value;
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        {
                alert("Caller Name is required.");
                return false;
        }
        // may add code for validating other inputs
}
</script>
```

15. When and how will the ValidateForm() function be called? Where is that piece of code that triggers it?

```
<form name="frmLogCall" action="dispatch.php" method="post" onsubmit="return validateForm()">
```

16. Test the **logcall.php** page in a browser and make sure it works correctly!

17. Version control your project and the database file to an online version control system.