International University

School of Computer Science and Engineering

PRINCIPLES OF DATABASE MANAGEMENT PROJECT

Student-Attendance-Management-System

ANSWER PAPER

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I. Introduction

The system is primarily dealing with student's attendance and records. Additionally, the system displays all the related information such as number of classes, instructor, student, as well as their individual attendance. In the system, administrators can create, add, or drop students or instructor's data and they also have access to other data in the system. Teachers are allowed to filter student's data and check their attendance.

II. Approach

1. Database

a. Table

The database has 8 table:

- **Admin:** Contained name, ID of the administrators and their account

Figure 1: admin table

- **Teacher:** Contained information about the teacher such as their ID, name, class, phone number and their account.

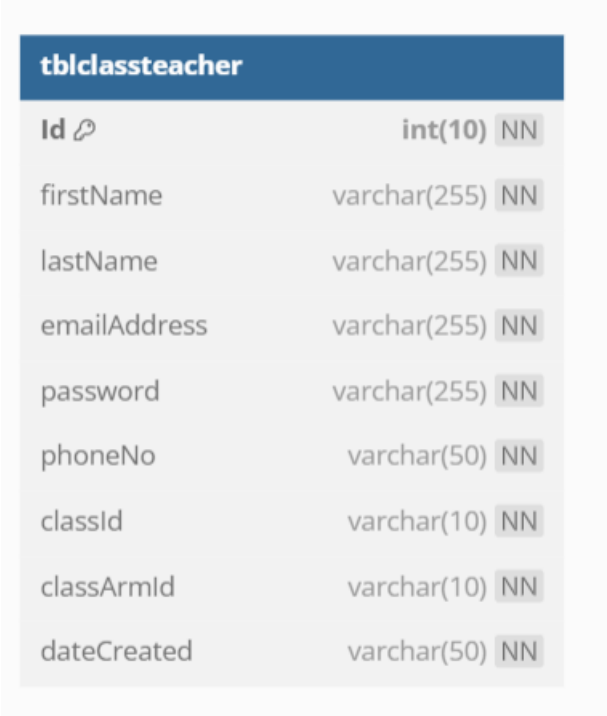

Figure 2: teacher table

- **Student:** Contained student's ID, name, their class and semester.

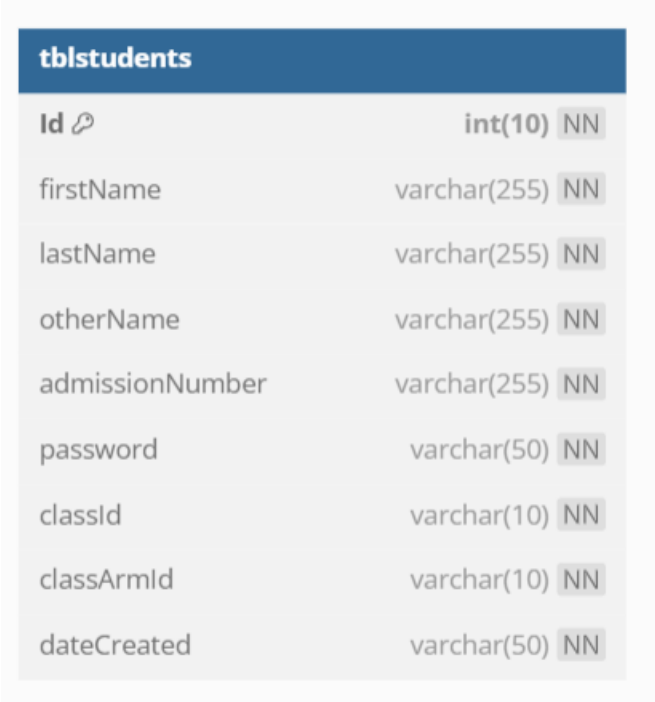

Figure 3: student table

- **Class:** Contained class's ID and name

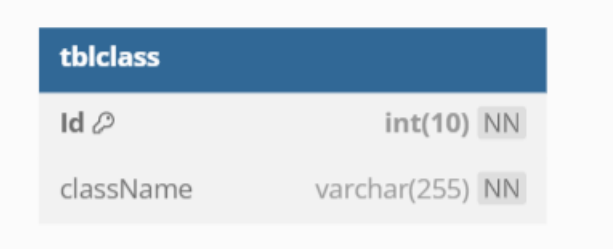

Figure 4: class table

- **Class-arm:** assigned arm for classes

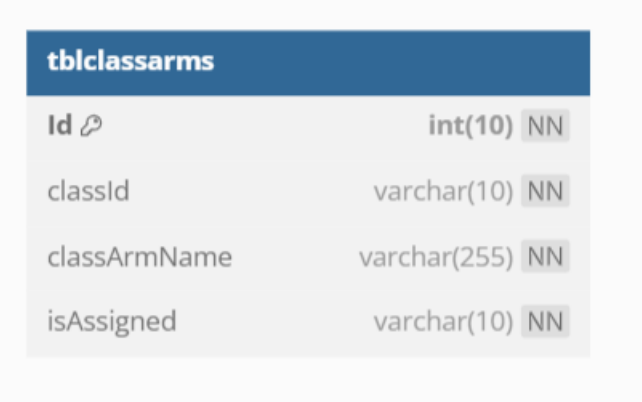

Figure 5: class-arm table

- **Term:** Had the semester information

Figure 6: term table

- **Session-Term:** This table is for assigning the semester with academic year.

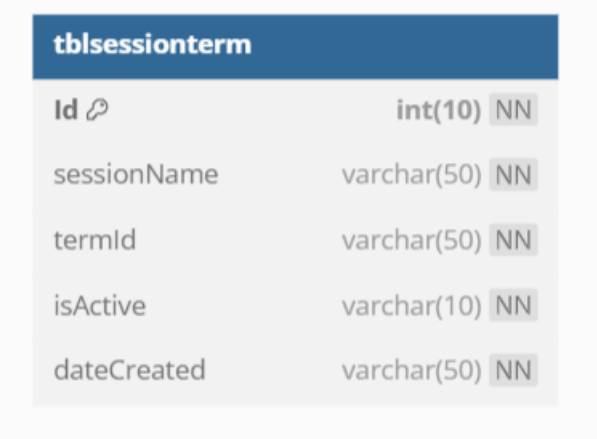

Figure 7: session-term table

- **Attendance:** This table is for checking student's attendance and containing some of the class's related information.

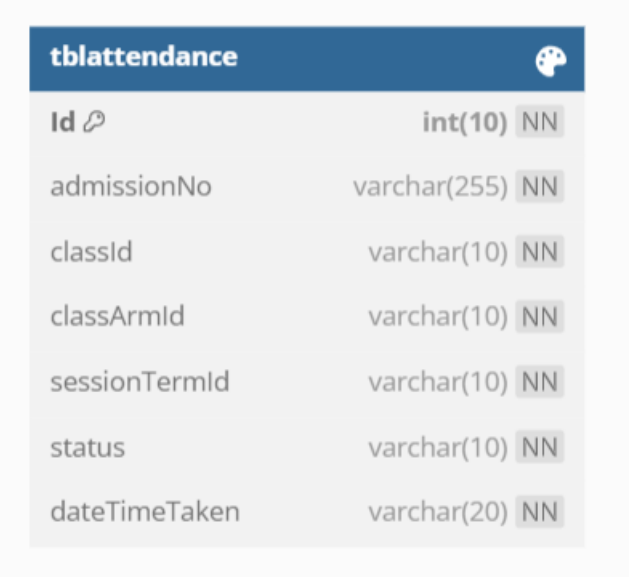

Figure 8: attendance table

b. ERD diagram:

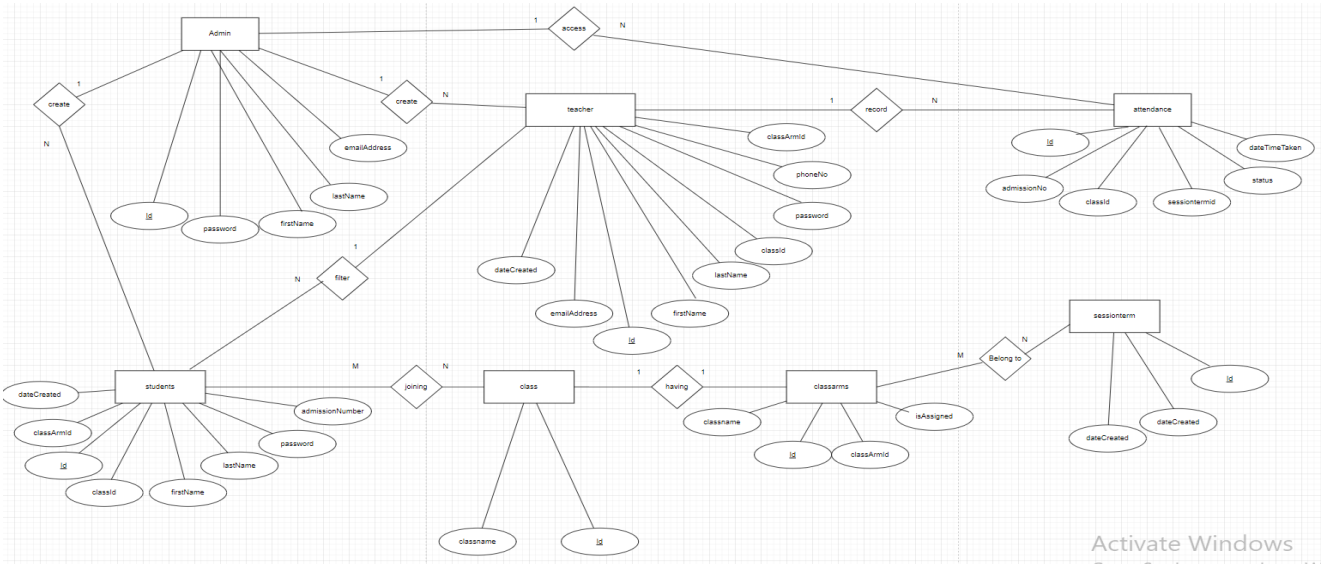

Figure 9: ERD diagram

c. Relational model:

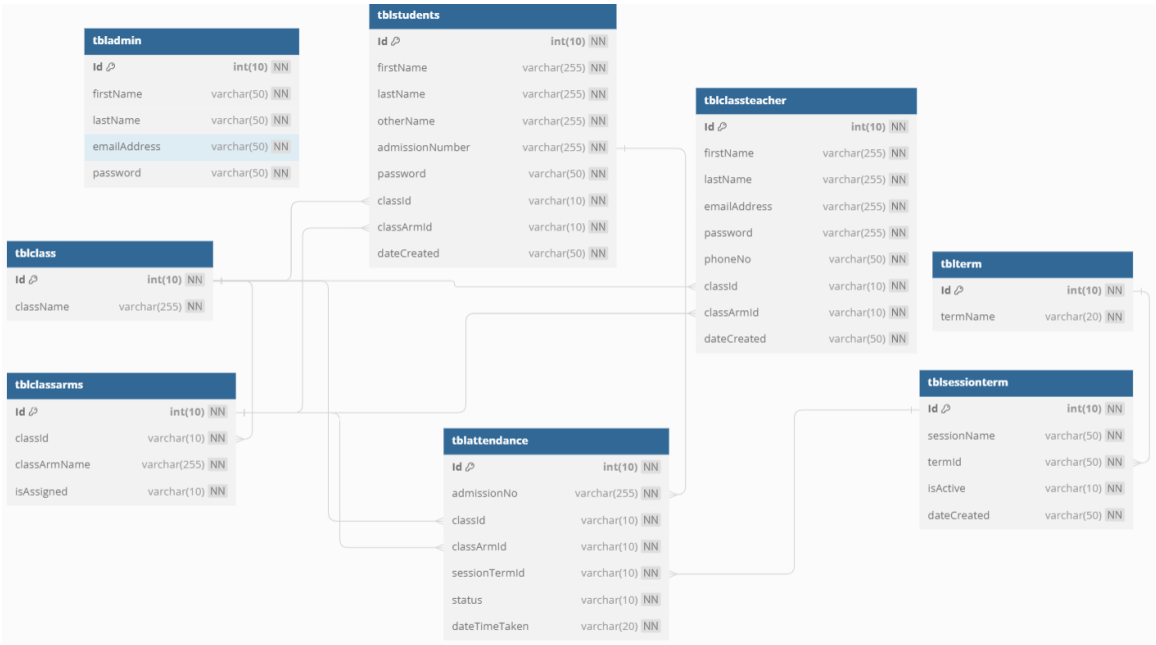

Figure 10: Relational model table in MySQL

2. System:

a. Database Connection

C: > Users > HP > Desktop > Student-Attendance-System01-main > Includes > dbcon.php

```php
<?php
    $host = "localhost";
    $user = "root";
    $pass = "";
    $db = "attendancemsystem";

    $conn = new mysqli($host, $user, $pass, $db);
    if($conn->connect_error){
        echo "Seems like you have not configured the database. Failed To Connect to database:" . $conn->connect_error;
    }
?>
```

Figure 11: Database Connection

In the code mentioned above:

In the above code:

$host: the MySQL server name (usually “localhost” if MySQL is running on the same machine).
$user: MySQL username.
$pass: MySQL user password.
$database: the name of the database you want to connect to.

The mysqli() function is used to create a new connection object, and connect_error is used to check whether there is a connection error.

After a successful connection, you can perform MySQL queries or data processing using the $conn object.

b. System Function

After finishing connecting to database (MySQL), the local web page appears. Then, we can choose the expected database

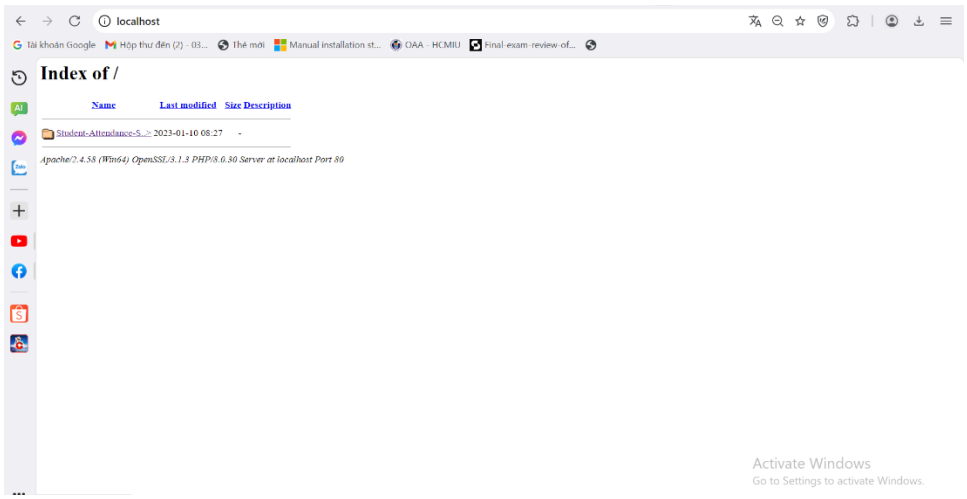

Figure 12: Database Connection Success

The system mainly uses 3 main functions:

- **Login:**

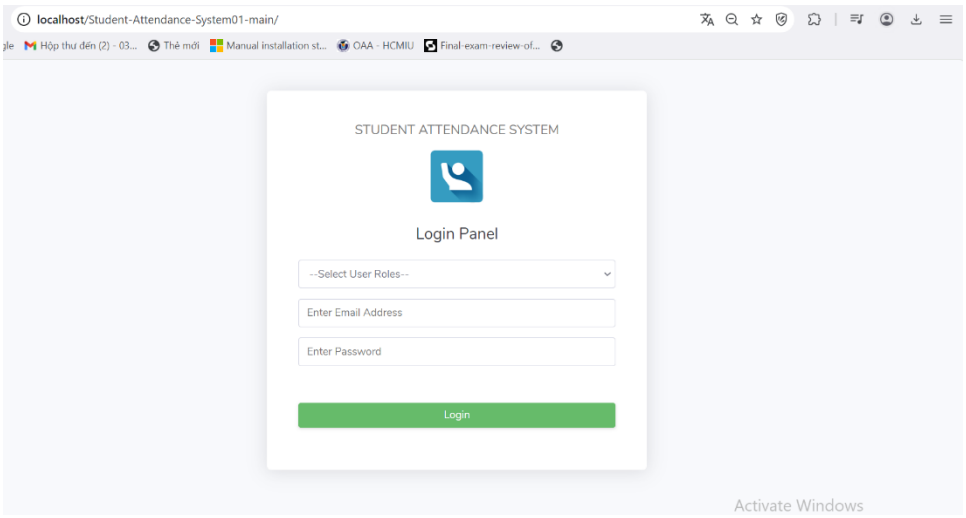

Figure 13: Login form

The project consists of two unique logins, the Admin Panel and the Teacher's Panel, both designed to fulfill certain functions in the educational environment. This all-inclusive method is intended to improve educational institutions' general effectiveness and functioning, such as verifying the student attendant.

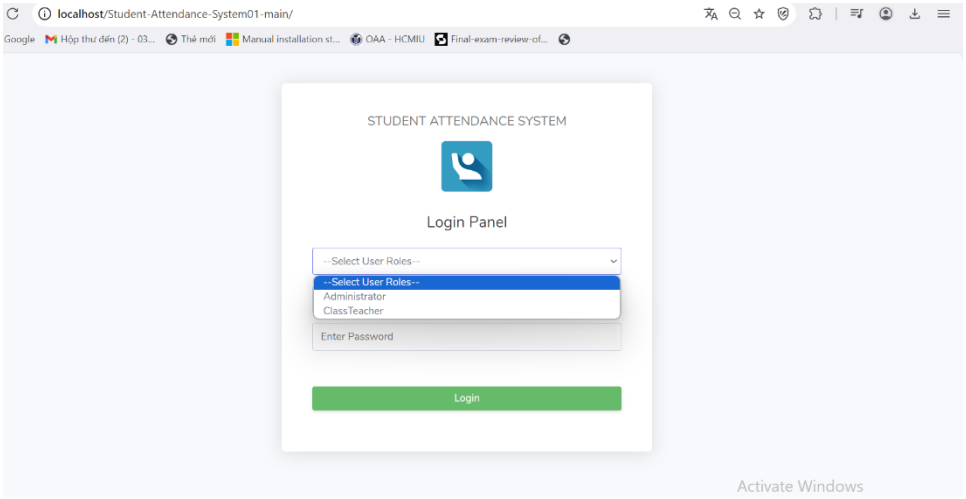

Figure 14: User Login Type

A dedicated platform called the Teacher's Panel gives teachers the ability to control student attendance. The Admin's Panel can effectively manage student and course data. In order to improve the standard of education, the panel also helps educators collaborate by providing them with opportunities to manage their students.

*** Query:**

We take the information (user role, username and the hash password) from the login form for the validation the user login session.

```php
$userType = $_POST['userType'];
$username = $_POST['username'];
$password = $_POST['password'];
$password = md5($password);
```

- **Login with the 13dministrator role:**

For the administrator user, we will search for the validation of the login information form the tbladmin and get the personal information of that user like first name, last name, email and the id for the identity of the user during the login session(or alert with the invalid login information).

```php
if($userType == "Administrator"){

  $query = "SELECT * FROM tbladmin WHERE emailAddress = '$username' AND password = '$password'";
  $rs = $conn->query($query);
  $num = $rs->num_rows;
  $rows = $rs->fetch_assoc();

  if($num > 0){

    $_SESSION['userId'] = $rows['Id'];
    $_SESSION['firstName'] = $rows['firstName'];
    $_SESSION['lastName'] = $rows['lastName'];
    $_SESSION['emailAddress'] = $rows['emailAddress'];

    echo "<script type = \"text/javascript\">
    window.location = (\"Admin/index.php\")
    </script>";
  }

  else{

    echo "<div class='alert alert-danger' role='alert'>
    Invalid Username/Password!
    </div>";

  }
}
```

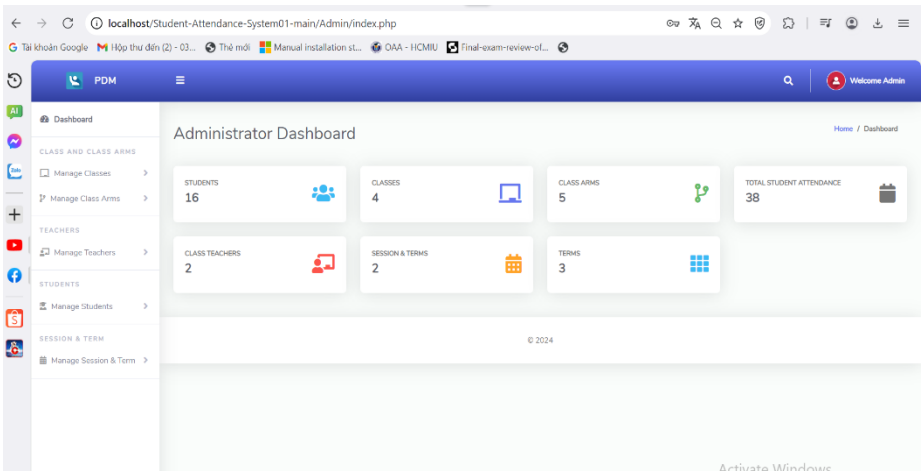

Figure 15: Administrator Panel

- **<u>Login with the teacher role:</u>**

Similar with the administrator, we will check the login information with the tblteacher and get the personal information for the login interface(or alert for the invalid login information)

```php
else if($userType == "ClassTeacher"){

  $query = "SELECT * FROM tblclassteacher WHERE emailAddress = '$username' AND password = '$password'";
  $rs = $conn->query($query);
  $num = $rs->num_rows;
  $rows = $rs->fetch_assoc();

  if($num > 0){

    $_SESSION['userId'] = $rows['Id'];
    $_SESSION['firstName'] = $rows['firstName'];
    $_SESSION['lastName'] = $rows['lastName'];
    $_SESSION['emailAddress'] = $rows['emailAddress'];
    $_SESSION['classId'] = $rows['classId'];
    $_SESSION['classArmId'] = $rows['classArmId'];

    echo "<script type = \"text/javascript\">
    window.location = (\"ClassTeacher/index.php\")
    </script>";
  }

  else{

    echo "<div class='alert alert-danger' role='alert'>
    Invalid Username/Password!
    </div>";

  }
}
else{

    echo "<div class='alert alert-danger' role='alert'>
    Invalid Username/Password!
    </div>";

}
```

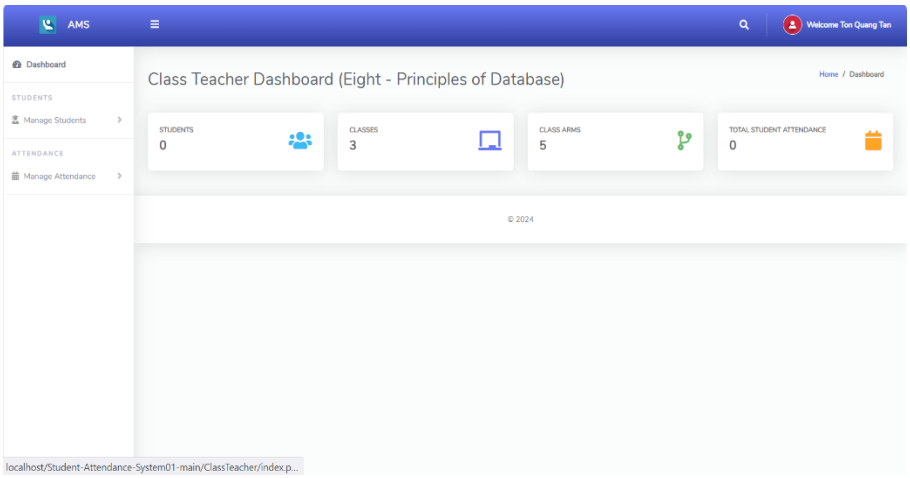

Figure 16: Teacher Panel

- **Add/Drop:**

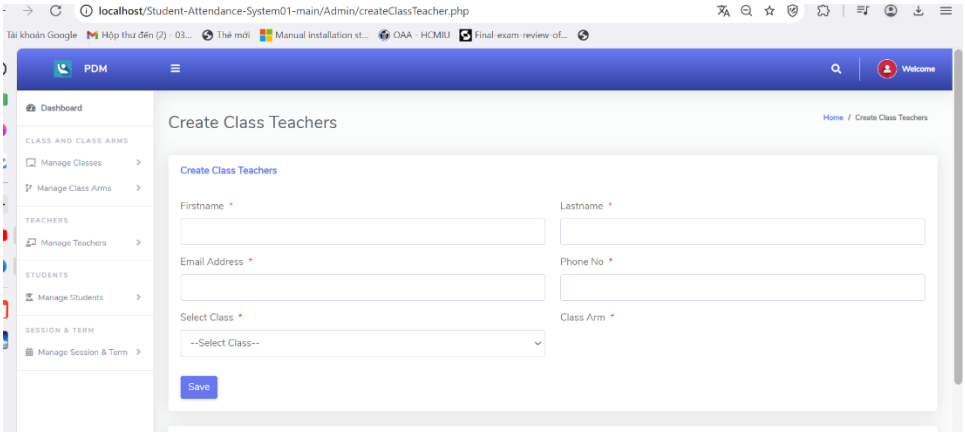

Figure 17: Adding Teacher

An educational system's administrator is primarily responsible for overseeing important components, such student and teacher accounts. They can access and manage data, including items such as attendance records, classes, and accounts for teachers and students. This entails setting up lessons and producing accurate accounting, both of which improve the institution's overall effectiveness. Furthermore, the administrator can provide necessary data, such as attendance summaries and academic reports, which aid in efficient communication and decision-

making. To put it briefly, the administrative duties include supervision, data processing, and continuous improvement of the curriculum.

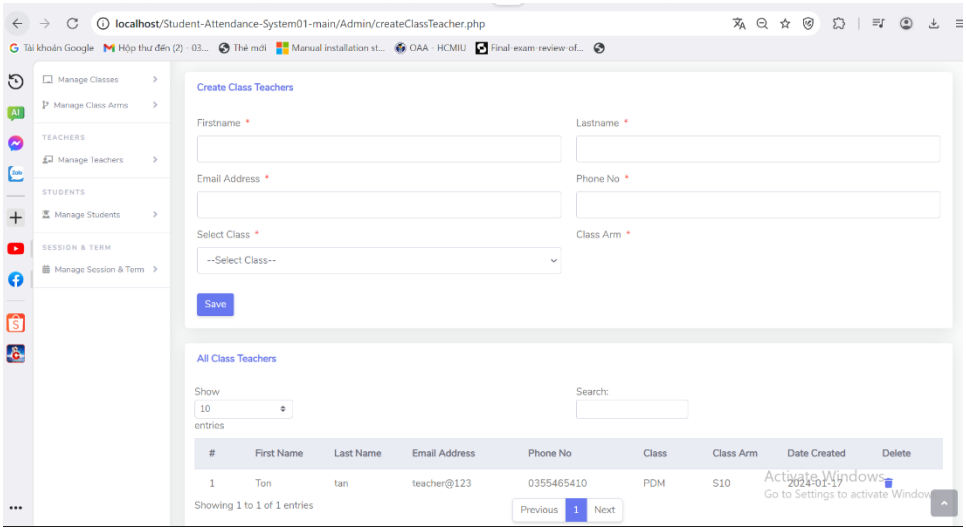

Figure 18: Manage Teacher (Add/Drop)

In addition to performing standard administrative duties, the administrator can eliminate unnecessary or unwanted data straight from the web page. By removing unnecessary or out-of-date content, this tool gives the administrator a hands-on method for keeping the platform organized and functional. By ensuring that only pertinent and current material is kept around, the option to remove data from a webpage at its source helps to create a more efficient and well-organized online space that improves user experience and system efficiency. It gives the administrator the ability to proactively manage the digital environment and match data content to the changing goals and demands of the company. The administrator's authority to adjust the online appearance and performance of the system is further demonstrated by their direct control over data deletion.

***Query:**

- **Admin:**

The admin user have the all the permission to manage class and teacher in the system.

1. **Class:** We 3 actions for the class atribute (save, edit or deleted) in the Admin\createClass.php

Save class:

```php
if(isset($_POST['save'])){

    $classId=$_POST['classId'];
    $classArmName=$_POST['classArmName'];

    $query=mysqli_query($conn,"select * from tblclassarms where classArmName ='$classArmName' and classId = '$classId'");
    $ret=mysqli_fetch_array($query);

    if($ret > 0){

        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>This Class Arm Already Exists!</div>";
    }
    else{

        $query=mysqli_query($conn,"insert into tblclassarms(classId,classArmName,isAssigned) value('$classId','$classArmName','0')");
    if ($query) {

        $statusMsg = "<div class='alert alert-success'  style='margin-right:700px;'>Created Successfully!</div>";
    }
    else
    {
        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
    }
  }
}
```

Edit class:

```php
if (isset($_GET['Id']) && isset($_GET['action']) && $_GET['action'] == "edit")
 {
    $Id= $_GET['Id'];

    $query=mysqli_query($conn,"select * from tblclass where Id ='$Id'");
    $row=mysqli_fetch_array($query);

    //------------UPDATE----------------------------

    if(isset($_POST['update'])){

        $className=$_POST['className'];

        $query=mysqli_query($conn,"update tblclass set className='$className' where Id='$Id'");

        if ($query) {

            echo "<script type = \"text/javascript\">
            window.location = (\"createClass.php\")
            </script>";
        }
        else
        {
            $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
        }
    }
  }
```

Delete class:

```php
if (isset($_GET['Id']) && isset($_GET['action']) && $_GET['action'] == "delete")
{
    $Id= $_GET['Id'];

    $query = mysqli_query($conn,"DELETE FROM tblclass WHERE Id='$Id'");

    if ($query == TRUE) {
        echo "<script type = \"text/javascript\">
        window.location = (\"createClass.php\")
        </script>";
    }
    else{
        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
    }
}
```

2. **Class Arms:** We have 3 actions (save, edit and delete) in the Admin\createClassArms.php

Save class arm:

```php
if(isset($_POST['save'])){

    $classId=$_POST['classId'];
    $classArmName=$_POST['classArmName'];

    $query=mysqli_query($conn,"select * from tblclassarms where classArmName ='$classArmName' and classId = '$classId'");
    $ret=mysqli_fetch_array($query);

    if($ret > 0){
        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>This Class Arm Already Exists!</div>";
    }
    else{
        $query=mysqli_query($conn,"insert into tblclassarms(classId,classArmName,isAssigned) value('$classId','$classArmName','0')");

    if ($query) {
        $statusMsg = "<div class='alert alert-success'  style='margin-right:700px;'>Created Successfully!</div>";
    }
    else
    {
        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
    }
  }
}
```

Edit class arm:

```php
if (isset($_GET['Id']) && isset($_GET['action']) && $_GET['action'] == "edit")
{
    $Id= $_GET['Id'];

    $query=mysqli_query($conn,"select * from tblclassarms where Id ='$Id'");
    $row=mysqli_fetch_array($query);

    //------------UPDATE----------------------------

    if(isset($_POST['update'])){

        $classId=$_POST['classId'];
        $classArmName=$_POST['classArmName'];

        $query=mysqli_query($conn,"update tblclassarms set classId = '$classId', classArmName='$classArmName' where Id='$Id'");

        if ($query) {

            echo "<script type = \"text/javascript\">
            window.location = (\"createClassArms.php\")
            </script>";
        }
        else
        {
            $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
        }
    }
}
```

Delete class arm:

```php
if (isset($_GET['Id']) && isset($_GET['action']) && $_GET['action'] == "delete")
{
    $Id= $_GET['Id'];

    $query = mysqli_query($conn,"DELETE FROM tblclassarms WHERE Id='$Id'");

    if ($query == TRUE) {

        echo "<script type = \"text/javascript\">
        window.location = (\"createClassArms.php\")
        </script>";
    }
    else{

        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
    }

}
```

3. **Class Teacher:** Admin have the permission to edit, create or delete the teacher user(Admin\createClassTeacher.php) :

Create Teacher:

```php
if(isset($_POST['save'])){

    $firstName=$_POST['firstName'];
    $lastName=$_POST['lastName'];
    $emailAddress=$_POST['emailAddress'];

    $phoneNo=$_POST['phoneNo'];
    $classId=$_POST['classId'];
    $classArmId=$_POST['classArmId'];
    $dateCreated = date("Y-m-d");

      $query=mysqli_query($conn,"select * from tblclassteacher where emailAddress ='$emailAddress'");
      $ret=mysqli_fetch_array($query);

      $sampPass = "pass123";
      $sampPass_2 = md5($sampPass);

      if($ret > 0){

          $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>This Email Address Already Exists!</div>";
      }
      else{

      $query=mysqli_query($conn,"INSERT into tblclassteacher(firstName,lastName,emailAddress,password,phoneNo,classId,classArmId,dateCreated)
      value('$firstName','$lastName','$emailAddress','$sampPass_2','$phoneNo','$classId','$classArmId','$dateCreated')");

      if ($query) {

          $qu=mysqli_query($conn,"update tblclassarms set isAssigned='1' where Id ='$classArmId'");
              if ($qu) {

                  $statusMsg = "<div class='alert alert-success'  style='margin-right:700px;'>Created Successfully!</div>";
                }
                else
                {
                  $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
                }
      }
      else
      {
        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
      }
    }
}
```

We set the default password of the new teacher user is pass123.

Edit Teacher:

```php
if (isset($_GET['Id']) && isset($_GET['action']) && $_GET['action'] == "edit")
 {
      $Id= $_GET['Id'];

      $query=mysqli_query($conn,"select * from tblclassteacher where Id ='$Id'");
      $row=mysqli_fetch_array($query);

      //------------UPDATE----------------------------

      if(isset($_POST['update'])){

          $firstName=$_POST['firstName'];
           $lastName=$_POST['lastName'];
           $emailAddress=$_POST['emailAddress'];

           $phoneNo=$_POST['phoneNo'];
           $classId=$_POST['classId'];
           $classArmId=$_POST['classArmId'];
           $dateCreated = date("Y-m-d");

    $query=mysqli_query($conn,"update tblclassteacher set firstName='$firstName', lastName='$lastName',
    emailAddress='$emailAddress', password='$password',phoneNo='$phoneNo', classId='$classId',classArmId='$classArmId'
    where Id='$Id'");
              if ($query) {

                  echo "<script type = \"text/javascript\">
                  window.location = (\"createClassTeacher.php\")
                  </script>";
                }
                else
                {
                  $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
                }
      }
  }
```

Delete Teacher:

```php
if (isset($_GET['Id']) && isset($_GET['classArmId']) && isset($_GET['action']) && $_GET['action'] == "delete")
{
    $Id= $_GET['Id'];
    $classArmId= $_GET['classArmId'];

    $query = mysqli_query($conn,"DELETE FROM tblclassteacher WHERE Id='$Id'");

    if ($query == TRUE) {

        $qu=mysqli_query($conn,"update tblclassarms set isAssigned='0' where Id ='$classArmId'");
        if ($qu) {

            echo "<script type = \"text/javascript\">
            window.location = (\"createClassTeacher.php\")
            </script>";
        }
        else
        {
            $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
        }
    }
    else{

        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
    }

}
```

4. **Session Term:** We have 4 action (save, edit, delete and activation) for the session term in Admin\createSessionTerm.php

Save session term:

```php
if(isset($_POST['save'])){

    $sessionName=$_POST['sessionName'];
    $termId=$_POST['termId'];
    $dateCreated = date("Y-m-d");

    $query=mysqli_query($conn,"select * from tblsessionterm where sessionName ='$sessionName' and termId = '$termId'");
    $ret=mysqli_fetch_array($query);

    if($ret > 0){

        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>This Session and Term Already Exists!</div>";
    }
    else{

        $query=mysqli_query($conn,"insert into tblsessionterm(sessionName,termId,isActive,dateCreated) value('$sessionName','$termId','0','$dateCreated')");

    if ($query) {

        $statusMsg = "<div class='alert alert-success'  style='margin-right:700px;'>Created Successfully!</div>";
    }
    else
    {
        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
    }
  }
}
```

Edit session term:

```php
if (isset($_GET['Id']) && isset($_GET['action']) && $_GET['action'] == "edit")
{
    $Id= $_GET['Id'];

    $query=mysqli_query($conn,"select * from tblsessionterm where Id ='$Id'");
    $row=mysqli_fetch_array($query);

    //------------UPDATE----------------------------

    if(isset($_POST['update'])){

        $sessionName=$_POST['sessionName'];
  $termId=$_POST['termId'];
  $dateCreated = date("Y-m-d");

        $query=mysqli_query($conn,"update tblsessionterm set sessionName='$sessionName',termId='$termId',isActive='0' where Id='$Id'");

        if ($query) {

            echo "<script type = \"text/javascript\">
            window.location = (\"createSessionTerm.php\")
            </script>";
        }
        else
        {
            $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
        }
    }
  }
```

Delete Session Term:

```php
if (isset($_GET['Id']) && isset($_GET['action']) && $_GET['action'] == "delete")
{
    $Id= $_GET['Id'];

    $query = mysqli_query($conn,"DELETE FROM tblsessionterm WHERE Id='$Id'");

    if ($query == TRUE) {

        echo "<script type = \"text/javascript\">
        window.location = (\"createSessionTerm.php\")
        </script>";
    }
    else{

        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
    }

}
```

Activation Session Term:

```php
if (isset($_GET['Id']) && isset($_GET['action']) && $_GET['action'] == "activate")
{
    $Id= $_GET['Id'];

    $query=mysqli_query($conn,"update tblsessionterm set isActive='0' where isActive='1'");

        if ($query) {

            $que=mysqli_query($conn,"update tblsessionterm set isActive='1' where Id='$Id'");

            if ($que) {

                echo "<script type = \"text/javascript\">
                window.location = (\"createSessionTerm.php\")
                </script>";
            }
            else
            {
                $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
            }
        }
        else
        {
            $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
        }

}
```

5. Student: The adminstrator have full permission with the student (save, edit and delete) in Admin\createStudents.php

Save student:

```php
if(isset($_POST['save'])){

  $firstName=$_POST['firstName'];
  $lastName=$_POST['lastName'];
  $otherName=$_POST['otherName'];

  $admissionNumber=$_POST['admissionNumber'];
  $classId=$_POST['classId'];
  $classArmId=$_POST['classArmId'];
  $dateCreated = date("Y-m-d");

  $query=mysqli_query($conn,"select * from tblstudents where admissionNumber ='$admissionNumber'");
  $ret=mysqli_fetch_array($query);

  if($ret > 0){

    $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>This Email Address Already Exists!</div>";
  }
  else{

  $query=mysqli_query($conn,"insert into tblstudents(firstName,lastName,otherName,admissionNumber,password,classId,classArmId,dateCreated)
  value('$firstName','$lastName','$otherName','$admissionNumber','12345','$classId','$classArmId','$dateCreated')");

  if ($query) {

    $statusMsg = "<div class='alert alert-success'  style='margin-right:700px;'>Created Successfully!</div>";

  }
  else
  {
    $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
  }
 }
}
```

Edit student:

```php
if (isset($_GET['Id']) && isset($_GET['action']) && $_GET['action'] == "edit")
{
    $Id= $_GET['Id'];

    $query=mysqli_query($conn,"select * from tblstudents where Id ='$Id'");
    $row=mysqli_fetch_array($query);

    //------------UPDATE----------------------------

    if(isset($_POST['update'])){

        $firstName=$_POST['firstName'];
$lastName=$_POST['lastName'];
$otherName=$_POST['otherName'];

$admissionNumber=$_POST['admissionNumber'];
$classId=$_POST['classId'];
$classArmId=$_POST['classArmId'];
$dateCreated = date("Y-m-d");

$query=mysqli_query($conn,"update tblstudents set firstName='$firstName', lastName='$lastName',
  otherName='$otherName', admissionNumber='$admissionNumber',password='12345', classId='$classId',classArmId='$classArmId'
  where Id='$Id'");
        if ($query) {

            echo "<script type = \"text/javascript\">
            window.location = (\"createStudents.php\")
            </script>";
        }
        else
        {
            $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
        }
    }
}
```

Delete student:

```php
if (isset($_GET['Id']) && isset($_GET['action']) && $_GET['action'] == "delete")
{
    $Id= $_GET['Id'];
    $classArmId= $_GET['classArmId'];

    $query = mysqli_query($conn,"DELETE FROM tblstudents WHERE Id='$Id'");

    if ($query == TRUE) {

        echo "<script type = \"text/javascript\">
        window.location = (\"createStudents.php\")
        </script>";
    }
    else{

        $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
    }

}
```

- **Teacher:**

The teacher have the limit permission in the manage the class and student in the system like :

1. **Download the record** of the information of the class, attendance, etc in the ClassTeacher\downloadRecord.php in the table:

```php
$ret = mysqli_query($conn,"SELECT tblattendance.Id,tblattendance.status,tblattendance.dateTimeTaken,tblclass.className,
    tblclassarms.classArmName,tblsessionterm.sessionName,tblsessionterm.termId,tblterm.termName,
    tblstudents.firstName,tblstudents.lastName,tblstudents.otherName,tblstudents.admissionNumber
    FROM tblattendance
    INNER JOIN tblclass ON tblclass.Id = tblattendance.classId
    INNER JOIN tblclassarms ON tblclassarms.Id = tblattendance.classArmId
    INNER JOIN tblsessionterm ON tblsessionterm.Id = tblattendance.sessionTermId
    INNER JOIN tblterm ON tblterm.Id = tblsessionterm.termId
    INNER JOIN tblstudents ON tblstudents.admissionNumber = tblattendance.admissionNo
    where tblattendance.dateTimeTaken = '$dateTaken' and tblattendance.classId = '$_SESSION[classId]' and tblattendance.classArmId = '$_SESSION[classArmId]'");
```

2. **Take the Attendance:** take the attendance in the class with the Id (ClassTeacher\takeAttendance.php):

```php
//session and Term
    $querey=mysqli_query($conn,"select * from tblsessionterm where isActive ='1'");
    $rwws=mysqli_fetch_array($querey);
    $sessionTermId = $rwws['Id'];

    $dateTaken = date("Y-m-d");

    $qurty=mysqli_query($conn,"select * from tblattendance  where classId = '$_SESSION[classId]' and classArmId = '$_SESSION[classArmId]' and dateTimeTaken='$dateTaken'");
    $count = mysqli_num_rows($qurty);

    if($count == 0){ //if Record does not exsit, insert the new record

      //insert the students record into the attendance table on page load
      $qus=mysqli_query($conn,"select * from tblstudents  where classId = '$_SESSION[classId]' and classArmId = '$_SESSION[classArmId]'");
      while ($ros = $qus->fetch_assoc())
      {
        $qquery=mysqli_query($conn,"insert into tblattendance(admissionNo,classId,classArmId,sessionTermId,status,dateTimeTaken)
        value('$ros[admissionNumber]','$_SESSION[classId]','$_SESSION[classArmId]','$sessionTermId','0','$dateTaken')");

      }
    }
//check if the attendance has not been taken i.e if no record has a status of 1
  $qurty=mysqli_query($conn,"select * from tblattendance  where classId = '$_SESSION[classId]' and classArmId = '$_SESSION[classArmId]' and dateTimeTaken='$dateTaken' and status = '1'"
  $count = mysqli_num_rows($qurty);

  if($count > 0){

    $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>Attendance has been taken for today!</div>";

  }

  else //update the status to 1 for the checkboxes checked
  {

    for($i = 0; $i < $N; $i++)
    {
      $admissionNo[$i]; //admission Number

      if(isset($check[$i])) //the checked checkboxes
      {
        $qquery=mysqli_query($conn,"update tblattendance set status='1' where admissionNo = '$check[$i]'");

        if ($qquery) {

          $statusMsg = "<div class='alert alert-success'  style='margin-right:700px;'>Attendance Taken Successfully!</div>";
        }
        else
        {
          $statusMsg = "<div class='alert alert-danger' style='margin-right:700px;'>An error Occurred!</div>";
        }

      }
    }
  }
```

```php
$query = "SELECT tblstudents.Id,tblstudents.admissionNumber,tblclass.className,tblclass.Id As classId,tblclassarms.classArmName,tblclassarms.Id AS classArmId,tblstudents.firstName,
tblstudents.lastName,tblstudents.otherName,tblstudents.admissionNumber,tblstudents.dateCreated
FROM tblstudents
INNER JOIN tblclass ON tblclass.Id = tblstudents.classId
INNER JOIN tblclassarms ON tblclassarms.Id = tblstudents.classArmId
where tblstudents.classId = '$_SESSION[classId]' and tblstudents.classArmId = '$_SESSION[classArmId]'";
$rs = $conn->query($query);
$num = $rs->num_rows;
$sn=0;
$status="";
if($num > 0)
{
  while ($rows = $rs->fetch_assoc())
    {
      $sn = $sn + 1;
      echo"
        <tr>
          <td>".$sn."</td>
          <td>".$rows['firstName']."</td>
          <td>".$rows['lastName']."</td>
          <td>".$rows['otherName']."</td>
          <td>".$rows['admissionNumber']."</td>
          <td>".$rows['className']."</td>
          <td>".$rows['classArmName']."</td>
          <td><input name='check[]' type='checkbox' value=".$rows['admissionNumber']." class='form-control'></td>
        </tr>";
        echo "<input name='admissionNo[]' value=".$rows['admissionNumber']." type='hidden' class='form-control'>";
    }
}
else
{
    echo
    "<div class='alert alert-danger' role='alert'>
      No Record Found!
      </div>";
}
```

3. **View the attendance:** View all the attendance of the class (ClassTeacher\viewAttendance.php) in the table:

```php
$query = "SELECT tblattendance.Id,tblattendance.status,tblattendance.dateTimeTaken,tblclass.className,
tblclassarms.classArmName,tblsessionterm.sessionName,tblsessionterm.termId,tblterm.termName,
tblstudents.firstName,tblstudents.lastName,tblstudents.otherName,tblstudents.admissionNumber
FROM tblattendance
INNER JOIN tblclass ON tblclass.Id = tblattendance.classId
INNER JOIN tblclassarms ON tblclassarms.Id = tblattendance.classArmId
INNER JOIN tblsessionterm ON tblsessionterm.Id = tblattendance.sessionTermId
INNER JOIN tblterm ON tblterm.Id = tblsessionterm.termId
INNER JOIN tblstudents ON tblstudents.admissionNumber = tblattendance.admissionNo
where tblattendance.dateTimeTaken = '$dateTaken' and tblattendance.classId = '$_SESSION[classId]' and tblattendance.classArmId = '$_SESSION[classArmId]'";
```

4. View the Student Attendance: view the student attendance list follow the type (ClassTeacher\viewStudentAttendance.php):

Type 1:

```php
if($type == "1"){ //All Attendance

  $query = "SELECT tblattendance.Id,tblattendance.status,tblattendance.dateTimeTaken,tblclass.className,
  tblclassarms.classArmName,tblsessionterm.sessionName,tblsessionterm.termId,tblterm.termName,
  tblstudents.firstName,tblstudents.lastName,tblstudents.otherName,tblstudents.admissionNumber
  FROM tblattendance
  INNER JOIN tblclass ON tblclass.Id = tblattendance.classId
  INNER JOIN tblclassarms ON tblclassarms.Id = tblattendance.classArmId
  INNER JOIN tblsessionterm ON tblsessionterm.Id = tblattendance.sessionTermId
  INNER JOIN tblterm ON tblterm.Id = tblsessionterm.termId
  INNER JOIN tblstudents ON tblstudents.admissionNumber = tblattendance.admissionNo
  where tblattendance.admissionNo = '$admissionNumber' and tblattendance.classId = '$_SESSION[classId]' and tblattendance.classArmId = '$_SESSION[classArmId]'";

}
```

Type 2:

```
if($type == "2"){ //Single Date Attendance

 $singleDate =  $_POST['singleDate'];

 $query = "SELECT tblattendance.Id,tblattendance.status,tblattendance.dateTimeTaken,tblclass.className,
 tblclassarms.classArmName,tblsessionterm.sessionName,tblsessionterm.termId,tblterm.termName,
 tblstudents.firstName,tblstudents.lastName,tblstudents.otherName,tblstudents.admissionNumber
 FROM tblattendance
 INNER JOIN tblclass ON tblclass.Id = tblattendance.classId
 INNER JOIN tblclassarms ON tblclassarms.Id = tblattendance.classArmId
 INNER JOIN tblsessionterm ON tblsessionterm.Id = tblattendance.sessionTermId
 INNER JOIN tblterm ON tblterm.Id = tblsessionterm.termId
 INNER JOIN tblstudents ON tblstudents.admissionNumber = tblattendance.admissionNo
 where tblattendance.dateTimeTaken = '$singleDate' and tblattendance.admissionNo = '$admissionNumber' and tblattendance.classId = '$_SESSION[classId]' and
 tblattendance.classArmId = '$_SESSION[classArmId]'";


}
```

Type 3:

```
if($type == "3"){ //Date Range Attendance

 $fromDate =  $_POST['fromDate'];
 $toDate =  $_POST['toDate'];

 $query = "SELECT tblattendance.Id,tblattendance.status,tblattendance.dateTimeTaken,tblclass.className,
 tblclassarms.classArmName,tblsessionterm.sessionName,tblsessionterm.termId,tblterm.termName,
 tblstudents.firstName,tblstudents.lastName,tblstudents.otherName,tblstudents.admissionNumber
 FROM tblattendance
 INNER JOIN tblclass ON tblclass.Id = tblattendance.classId
 INNER JOIN tblclassarms ON tblclassarms.Id = tblattendance.classArmId
 INNER JOIN tblsessionterm ON tblsessionterm.Id = tblattendance.sessionTermId
 INNER JOIN tblterm ON tblterm.Id = tblsessionterm.termId
 INNER JOIN tblstudents ON tblstudents.admissionNumber = tblattendance.admissionNo
 where tblattendance.dateTimeTaken between '$fromDate' and '$toDate' and tblattendance.admissionNo = '$admissionNumber' and tblattendance.classId =
 '$_SESSION[classId]' and tblattendance.classArmId = '$_SESSION[classArmId]'";

}
```

5. View the list of student: view the table of the student(ClassTeacher\viewStudents.php):

```
$query = "SELECT tblstudents.Id,tblclass.className,tblclassarms.classArmName,tblclassarms.Id AS classArmId,tblstudents.firstName,
tblstudents.lastName,tblstudents.otherName,tblstudents.admissionNumber,tblstudents.dateCreated
FROM tblstudents
INNER JOIN tblclass ON tblclass.Id = tblstudents.classId
INNER JOIN tblclassarms ON tblclassarms.Id = tblstudents.classArmId
where tblstudents.classId = '$_SESSION[classId]' and tblstudents.classArmId = '$_SESSION[classArmId]'";
```

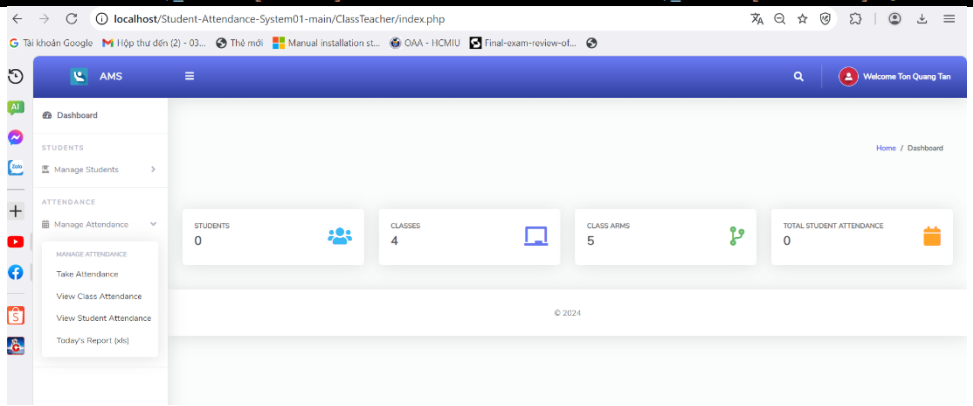

Figure 19: Teacher Login

Teachers can observe student attendance in their classes and note the total number of attendees. By inputting the precise number of students that attended the lesson, they may also record the attendance. This data is then kept in the database. This tool gives teachers the capacity to keep an eye on and regulate student engagement, which makes it easier to track attendance patterns and helps with general classroom management. Teachers help create accurate and current records by entering attendance information into the database, which promotes a more efficient and well-run educational system.

III. Results and discussion

1. Database Connection and Structure

Eight tables, each intended to record and oversee elements of the learning environment, are effectively included into the database, as shown by the Entity-Relationship Diagram (ERD) and relational table model. The tables labeled "Admin," "Teacher," "Student," "Class-arm," "Term," "Session-Term," and "Attendance" provide a strong framework for data organization and storage.

2. System Functionality

The system demonstrated strong performance in connecting to databases and offering administrators and teachers an intuitive interface. The login mechanism guarantees safe access and customized experiences by distinguishing between the roles of instructor and administrator.

3. User roles and Panel operation

The project effectively distinguishes between the responsibilities of teacher and administrator. Administrators can create, modify, and remove classes and manage teachers and classes. Teachers, on the other hand, may help to ensure efficient classroom management by actively tracking and recording student attendance.

4. Add/Drop Functionality

The system's 'Add/Drop' feature gives administrators and teachers the ability to carry out essential class attendance administration tasks. This involves designing new courses or altering existing ones to ensure that they are flexible and responsive to evolving student demands.

5. Overall System performance

The Student Attendance Management System performed well, fulfilling its goals of offering a complete solution for data management and attendance monitoring in an educational setting.

IV. Conclusion

The project successfully implemented a Student Attendance Management System with application of principle of Database Management. The system demonstrates its capacity to streamline administrative tasks, empower teachers with attendance tracking capabilities, and contribute to the overall efficiency of educational institutions.

However, the system didn't have a register and student account.

V. Reference

- Student-Attendance-Management-System: https://github.com/dev-mhrony/Student-Attendance-System01/blob/main/README.md
- Database connectivity | Student Registration System: https://youtu.be/6Asa9OGLYRI?si=1mQpRuz943MD-SBP
- School Management System Project: https://youtu.be/lCtf5_F5rVI?si=DF1pwEydrdTDt2As

THE END