CSE233

Agile Software Engineering



Agile Project

Pirates Online Courses Website

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Background

Pirates is a non-profit student activity that was founded in 2009. Its main mission is to help bridge the gap between students and the market. Pirates' job is to give students the chance to flourish and prove their worth and find the diamond in the rough. Furthermore, it aims to prepare students for the future.



@Piratesegypt | f (0) 🔰 D in

In Egypt, Unemployment is a very critical problem we touch every day. The unemployment rate grew in 2021 reaching 9.33%, assuming we are 106,694,206¹

people living in Egypt then there are about 9,954,570 persons not working which is a huge deal.

At the same time, the ICT industry is the fasted growing sector in Egypt. Its growth rate is estimated to be about $16.3\%^2$ which allowed Egypt to create around 280k jobs with 30% women participation – we need to work on it to reach 50% -

What makes the software/ICT industry so special is that employees can fully operate remotely 16% of companies are working fully remotely now³. And you can easily export your software without much hassle other industries face. Which allowed Egypt's IT exports hit \$3.67 Billion Dollars!

Combining the unemployment data with the ICT growth with even the export rate, a new market gap is ready to be filled. Not only we can create a sufficient of software creating in Egypt to reduce the import crisis we are currently facing Egypt⁴ But we can capitalize on this gap to increase our shares of software exports allowing us to increase our reserve of dollars which will allow us to eliminate the dollar crisis.

We aim for a better future for all students. We aim to find the treasure buried inside each student to unlock a better future for everyone.

¹Egypt Population (2022) - https://www.worldometers.info/world-population/egypt-population

² FASTEST GROWING SECTOR - https://itida.gov.eg/English/Programs/Industry-Outlook/Pages/default.aspx

³ STATISTICS ON REMOTE WORKERS THAT WILL SURPRISE YOU (2022) -

https://www.apollotechnical.com/statistics-on-remote-workers/

⁴ How Egypt survives its import crisis in 2022: struggle and resilience-

https://business forward auc.com/2022/08/05/how-egypt-survives-its-import-crisis-in-2022-a-story-of-struggle-and-resilience/

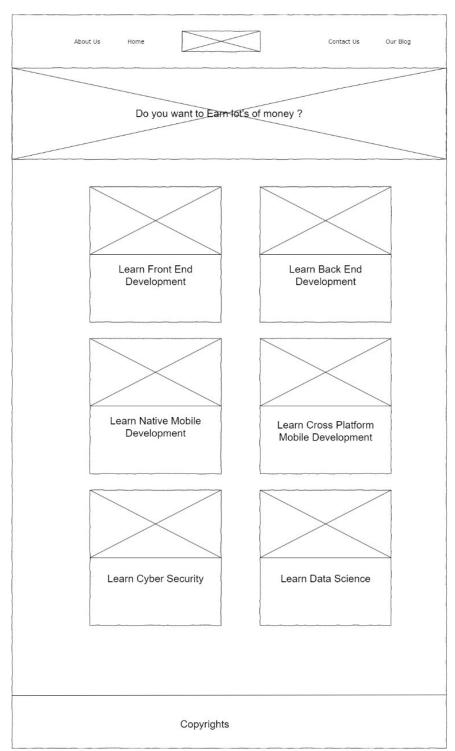
Client report

What the Website Will Accomplish

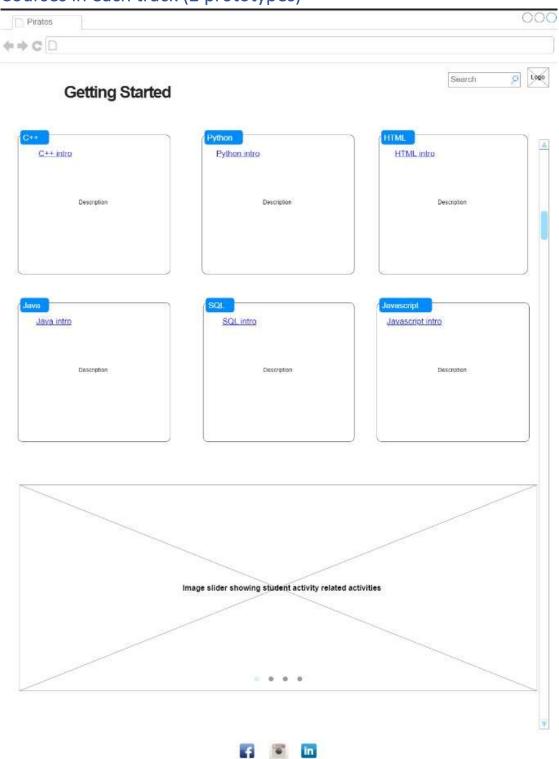
As many people don't know where to begin building their road map to a specific track, the goal of this application is to assist more people in learning and obtaining their dream jobs. Users can log in as students or administrators, and administrators can use their administrative powers to add courses or remove others. Administrators, on the other hand, may monitor their students' academic progress and determine whether they have what it takes to finish their courses.

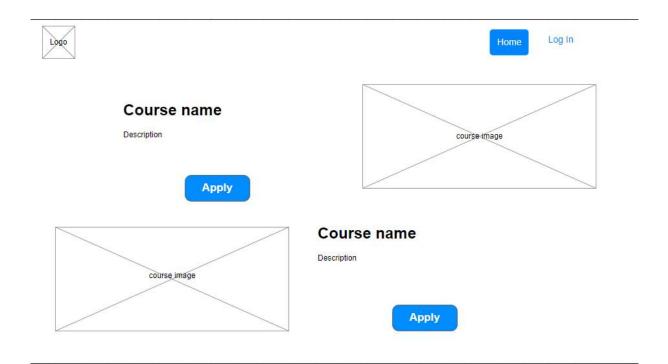
- **Login as admin:** The administrator is the one who adds or deletes courses from the system, as appropriate.
- **User login:** To create an account, students must sign up for the system on their own. Once they have successfully registered, they may log in to the system by providing their email and password.
- Course Addition and Removal: The administrator can add courses to the system by entering the course information or delete courses by selecting the desired course.
- Access tracks and courses: Users can access any available course from the track they choose.

Prototype Landing page

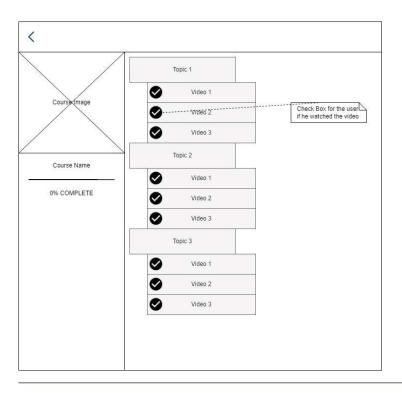


Courses in each track (2 prototypes)

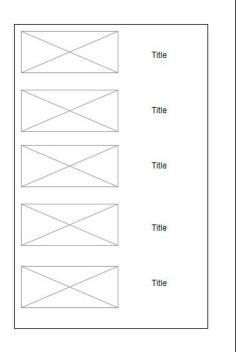




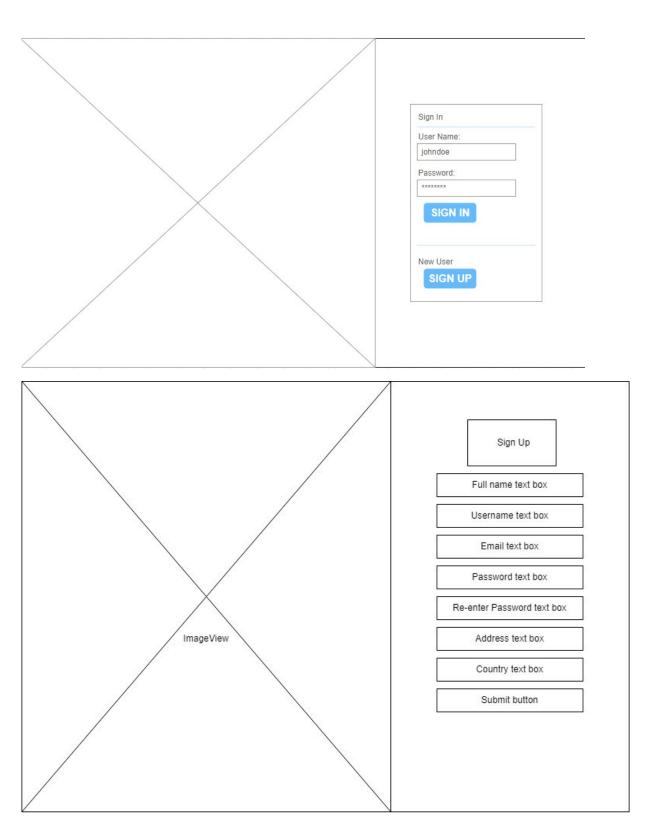
Course content page



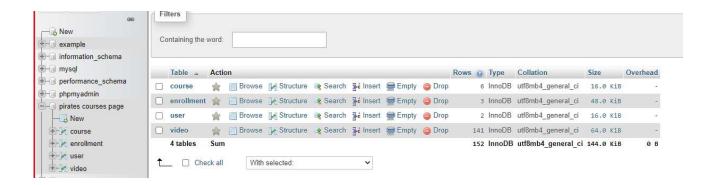




Log in and registration page



Sql Database



Database schema

4 tables (user, enrollment, user, video)

Database: pirates courses page, Table: course, Purpose: Table structure

Column	Type	Null	Default	Comments
cid	int(50)	No		
cname	varchar(120)	No		
cdescription	varchar(300)	No		
imglink	varchar(300)	No		
cstudentcount	int(50)	No		
pid	int(50)	No		

Database: pirates courses page, Table: enrollment, Purpose: Table structure

Column	Type	Null	Default	Comments
eid	int(50)	No		
uid	int(50)	No		
cid	int(50)	No		

Database: pirates courses page, Table: user, Purpose: Table structure

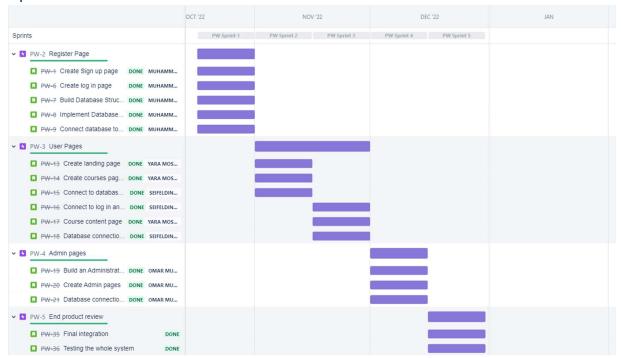
Column	Type	Null	Default	Comments
uid	int(50)	No		
uusername	varchar(120)	No		
upassword	varchar(120)	No		
uemail	varchar(120)	No		
uname	varchar(120)	No		li li
uaddress	varchar(255)	No		,
ucountry	varchar(120)	No		
urole	int(1)	No		

Database: pirates courses page, Table: video, Purpose: Table structure

Column	Type	Null	Default	Comments
vid	int(50)	No		
vname	varchar(120)	No		
vlink	varchar(255)	No		
cid	int(50)	No		6

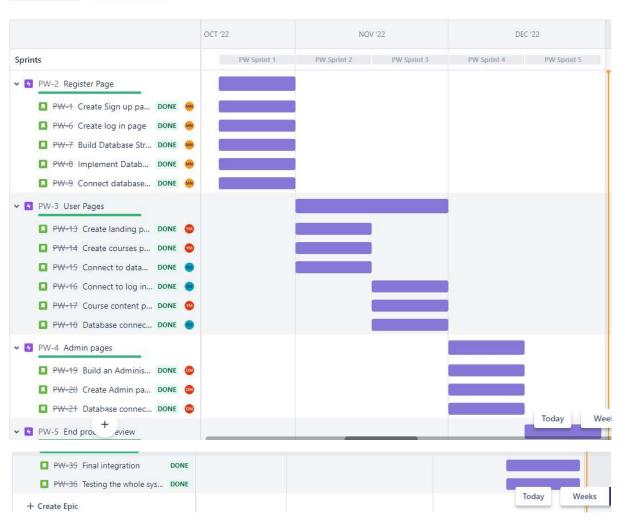
Jira

Epics

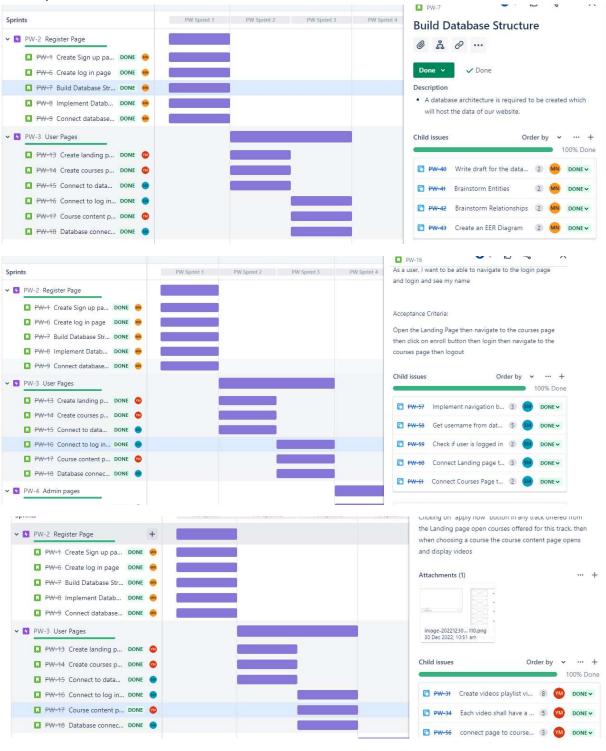


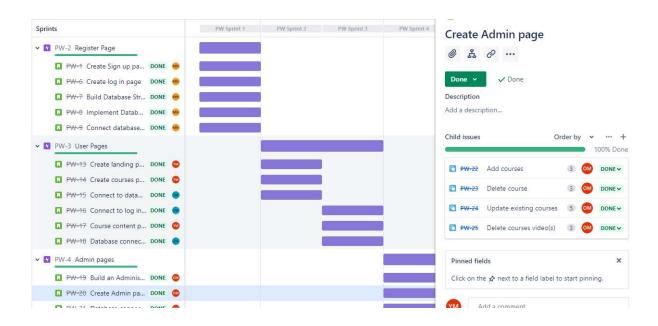
User stories in epics



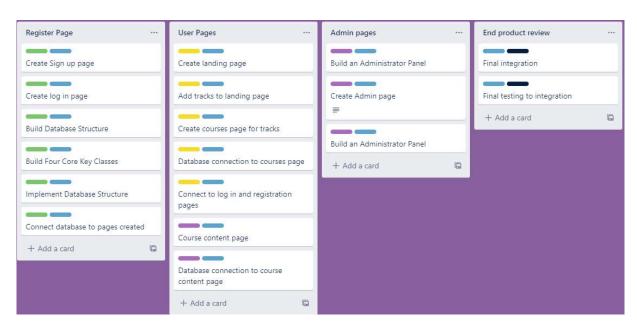


Example of items in user stories





Story mapping



labels

Release 1 -> green

Release 2 -> yellow

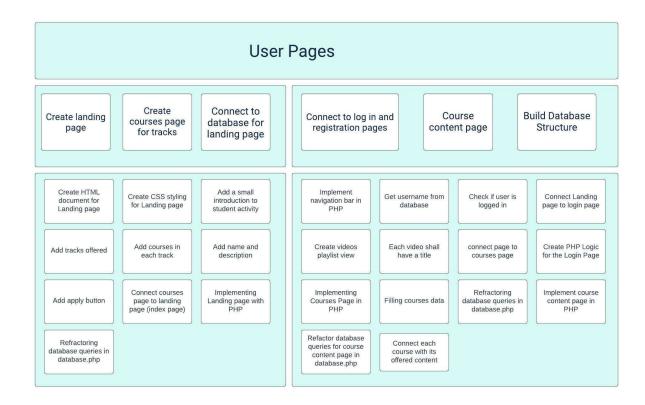
Release 3 -> purple

Release 4 -> black

Done -> blue

Multilevel planning

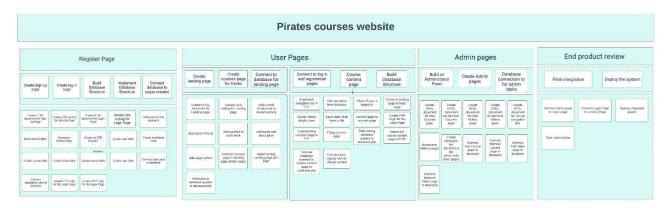
Register Page Build Implement Connect Create Sign up Create log in Database Database database to page page Structure Structure pages created Create CSS Create HTML Create HTML Create CSS styling Write draft for the document for Sign document for Login styling for for Sign Up Page database Up Page Page Login Page Brainstorm Create an EER Create enrollment **Brainstorm Entities** Create user table Relationships Diagram Connect login page to database Create course table Create video table Create course table Create user table Create PHP Logic Create PHP Logic registration page to for the Login Page for the Login Page database





Final integration Deploy the system Connect Admin page to Login Page to Landing Page Testing integrated paged Take client review

Whole view of theme then epics then user stories then items.



Code

Php Folder

Database.php

Database.php serves as a singleton and acts as the controller that contacts the database either to get data or modify/change data in the database.

The constuctor is responsible for the connection to the database. It contains name of host(localhost), username(root), password, our database name(learntoearn).

If the connection fails, Connection Failed is printed out.

The signup function creates a new user in the database. It contains error handling: 1- Checking if the username entered was entered before, 2- Checking if all data fields were entered.

It also has a layer of security in that it hashes password entered to md5 in the database.

The login function checks if entered username and password are in the database and are correct.

```
function getConnection(){
    return $this->connection;
}
```

getConnection returns our database connection

```
function isUsernameAvailable($username){
    $query="SELECT * FROM user WHERE uusername='".$username."'";
    $result = mysqli_query($this->getConnection(),$query);
    if(mysqli_num_rows($result)){
        return 0;
    }
} else{
        return 1;
}
```

This function checks if username is already used or not and is used in login function.

```
function getUserCount($cid){
    $query= "SELECT COUNT(*) FROM enrollment WHERE cid='".$cid."'";
    $result = mysqli_query($this->getConnection(),$query);
    $data = mysqli_fetch_assoc($result);
    return $data["COUNT(*)"];
}
```

getUserCount takes course id as parameter and returns number of students enrolled in this course

```
function setUserCount($cid,$count){
    $query = "UPDATE course SET cstudentcount='$count' WHERE cid ='$cid'";
    $result = mysqli_query($this->getConnection(),$query);
}
```

setUserCount takes course id and student count and updates it in our database.

```
function isPasswordAvailable($password1,$password2){
   if($password1===$password2){
      return 1;
   }else{
      return 0;
   }
}
```

This function checks if used have not been repeated before in our database

```
function isEmailAvailable($email){
    $query="SELECT * FROM user WHERE uemail='".$email."'";
    $result = mysqli_query($this->getConnection(),$query);
    if(mysqli_num_rows($result)){
        return 0;
    }else{
        return 1;
    }
}
```

isEmailAvailable checks if given email have not been used before to create another account

```
function addCourse($c_name, $c_desc, $c_link, $c_imag, $c_studs, $c_track) {
    $sql_insert_course =
    "INSERT INTO `course` (cname, cdescription, clink, imglink, cstudentcount, pid)
    VALUES('$c_name', '$c_desc', '$c_link', '$c_imag', '$c_studs', '$c_track')";
    if (mysqli_query($this->getConnection(), $sql_insert_course)) {
        return true;
    } else {
        return false;
    }
}
```

addCourse adds course with its information to database. This function is used in admin pages.

```
function addVideo($v_name, $v_link, $c_id) {
    $sql_insert_vid =
    "INSERT INTO `video` (vname, vlink, cid)
    VALUES('$v_name', '$v_link', $c_id)";
    if (mysqli_query($this->getConnection(), $sql_insert_vid)) {
        return true;
    } else {
        return false;
    }
}
```

addVideo adds video with its information to database.

```
function removeCourse($courseID) {
    $this->removeVideo(NULL, $courseID);
    if ($courseID) {
        $sql_remove = "DELETE FROM `course` WHERE `course`.`cid` = $courseID";
        if (mysqli_query($this->getConnection(), $sql_remove)) {
            return true;
        } else {
            return false;
        }
    } else {
        return false;
    }
}
```

removeCourse removes course with given courseID from database

```
function removeVideo($videoID, $courseID) {
   if ($videoID) {
        $sql_remove = "DELETE FROM `video` WHERE `video`.`vid` = $videoID";
        if (mysqli_query($this->connection, $sql_remove)) return true;
} elseif ($courseID) {
        $sql_remove = "DELETE FROM `video` WHERE `video`.`cid` = $courseID";
        if (mysqli_query($this->connection, $sql_remove));
        return true;
} else {
        return false;
}
```

removeVideo deletes course with given videoID and courseID from database

```
function getList($vid1course0) {
 if ($vid1course0 == 1) {
     $sql = "SELECT vid, vname FROM video";
     $col1 = 'vid';
     $col2 = 'vname';
  | else {
     $sql = "SELECT cid, cname FROM course";
     $col1 = "cid";
     $col2 = "cname";
 $r = mysqli_query(
     $this->getConnection(),
     $sql
  );
 $result col1 = [];
 $result_col2 = [];
 while ($array = mysqli_fetch_array($r)) {
     $result_col1[] = $array[$col1];
     $result_col2[] = $array[$col2];
 $result = [[]];
 for ($i = 0; $i < count($result col1); $i++) {
     array push($result,
     [$result_col1[$i], $result_col2[$i]]);
 return array_slice($result, 1);
```

getList returns array that contains course name and id and video name and id

```
function getTracks() {
   return
[
      [1, "Front End"],
      [2, "Back End"],
      [3, "Data Science"],
      [4, "Mobile Developement"]
];
}
```

getTrack returns a list with all tracks offered

```
function showCourses(){
 $pid = $_GET["pid"];
 if(isset($_SESSION["username"])){
   $uname = $_SESSION["username"];
   $user = mysqli_query($this -> getConnection(), "SELECT uid FROM user WHERE uusername='$uname'");
   $urow = mysqli_fetch_array($user,MYSQLI_ASSOC);
   $uid = $urow["uid"];
   $enrolled_course = mysqli_query($this -> getConnection(), "SELECT eid,enrollment.cid FROM course,enrollment.us
 $result = mysqli_query($this -> getConnection(), "SELECT cid,cname,cdescription,imglink FROM course WHERE pid =
 "uname" => $uname,
"user" => $user,
               "urow" => $urow,
               "uid" => $uid,
               "enrolled_course" => $enrolled_course
   $query = array("result" => $result,
                "pid" => $pid,
 return $query;
```

showCourses retrieves all courses offered for a specific track, then returns an array containing user info and enrolled courses for this certain user if logged in; else, returns array with courses of selected track.

```
nction showCourseName(){
$cid = $_GET["cid"];
if(isset($_SESSION["username"])==False){
  header('Location:login.php');
$uname = $_SESSION["username"];
$result = mysqli_query($this -> getConnection(), "SELECT cname FROM course WHERE cid = $cid");
$user = mysqli_query($this -> getConnection(), "SELECT uid,uemail FROM user WHERE uusername='$uname'");
$enrolled_course = mysqli_query($this -> getConnection(), "SELECT cid FROM enrollment, user WHERE user.uid = en
$videos = mysqli_query($this -> getConnection(), "SELECT vname,vlink FROM video WHERE cid = $cid");
$row1 = mysqli_fetch_array($enrolled_course,MYSQLI_ASSOC);
$cname = mysqli_fetch_array($result,MYSQLI_ASSOC);
$urow = mysqli_fetch_array($user,MYSQLI_ASSOC);
if(is_null($row1)){
 $uid = $urow["uid"];
  $usercount= $this->getUserCount($cid);
  $this->enrollUser($uid,$cid);
  $usercount++;
  $this->setUserCount($cid,$usercount,$urow["uemail"]);
return $cname;
```

showCourseName returns coursename

```
function enrollUser($uid,$cid){
    $sql = "INSERT INTO enrollment (eid, uid, cid)
    VALUES (NULL, $uid, $cid)";
    mysqli_query($this -> getConnection(), $sql);
}
```

enrollUser enrolls user with uid into course with cid into enrollment table into database

```
function showVideo(){
    $cid = $_GET["cid"];
    $uname = $_SESSION["username"]) == False){
        header('Location:login.php');
    }
    $result = mysqli_query($this -> getConnection(), "SELECT cname FROM course WHERE cid = $cid");
    $user = mysqli_query($this -> getConnection(), "SELECT uid FROM user WHERE uusername='$uname'");

    $enrolled_course = mysqli_query($this -> getConnection(), "SELECT cid FROM enrollment,user WHERE user.uid = enro
    $videos = mysqli_query($this -> getConnection(), "SELECT vname,vlink FROM video WHERE cid = $cid");

    $row1 = mysqli_fetch_array($enrolled_course,MYSQLI_ASSOC);
    $cname = mysqli_fetch_array($result,MYSQLI_ASSOC);
    $urow = mysqli_fetch_array($user,MYSQLI_ASSOC);
    $uid = $urow["uid"];
    $uid = $urow["uid"];
    $sql = "INSERT INTO enrollment (eid, uid, cid)
    VALUES (NULL, $uid, $cid)";
    mysqli_query($this -> getConnection(), $sql);
    }
    return $videos;
}
```

showVideo retrieves videos from video database for certain course with cid

login.php

```
n login.php M X
php > ** login.php
      <?php
      require "sessions.php";
      require "database.php";
  4 require "strings.php";
      $username= $_POST["username"];
      $password= $ POST["password"];
      $db = new DB();
      $login = $db->login($_POST["submit"],$username,$password);
 11
 12
      if ($login[0] == 1) {
          $_SESSION["username"] = $username;
           $_SESSION["userrole"] = $login[1];
          if ($login[1] == 1) {
               redirect("/index.php");
 17
           } elseif ($login[1] == 0) {
               redirect("/admin/addcourse.php");
           } else {
               echo $login[0];
 22
```

Checks return value. If 1, user is redirected to index page; if 0, user is an admin and is redirected to admin pages

Sessions.php

```
php > # sessions.php

1 <?php
2 session_start();
3 ?>
```

Starts session after user is logged in

Signup.php

Sends user info to signup to register in the database and assigns user role 1.

strings.php

Contains all strings used in our View.

All strings were refactored to this file

```
strings.php M X
php > 🐄 strings.php
      <?php
  1
  2
     // General
     $hi = "Hi";
     $logout = "Log Out";
      $login = "Log In";
     $signup = "Sign Up";
      $showlearn = "Learn";
      $enrollnow = "Enroll Now";
  8
  9
      $addcourse = "Add Course";
 10
     $addtocourse = "Add To Course";
      $removecourse = "Remove Course";
 11
      $addvideo = "Add Video";
      $removevideo ="Remove Video";
      $selectvideoremove="Select a video to remove";
      $selectcourseremove="Select a course to remove";
 15
      $videoname="Video Name";
      $videolink="Video Link";
 17
     $coursename="Course Name";
 19
     $courseauthor="Course Author";
      $coursedescription="Course Description";
      $imagelink="Image Link";
      $coursetrack="Course Track";
      // Titles
      $titlesuffix =" | Pirates - Innovate to Lead";
      $logintitle = "Log In".$titlesuffix;
      $signuptitle = "Sign Up".$titlesuffix;
 26
     $coursespages = "Courses".$titlesuffix;
      $removevideotitle = "Remove Video".$titlesuffix;
      $removecoursetitle = "Remove Course".$titlesuffix;
      $addvideotitle = "Add Video".$titlesuffix;
      $addcoursetitle = "Add Course".$titlesuffix;
```

```
32  // Input Fields
33  $usernameph = "Your Username ...";
34  $passwordph = "Your Password ...";
35  $emailph = "Your Email ...";
36  $password2ph = "Re-enter Your Password ...";
37  $addressph = "Your Address ...";
38  $countryph = "Your Country ...";
39  $fullph = "Your Full Name ...";
40  ?>
```

utils.php

Contains utility function used in view.

isloggedin checks user role and opens a session for the appropriate user role.

```
function ack_removed($removed, $vid1course0) {
    if ($removed) {
        if ($vid1course0==1) {
            echo '<script>alert("Video removed successfully")</script>';
        } else {
            echo '<script>alert("Course removed successfully")</script>';
        }
        header("Refresh:0");
    } else {
        if($vid1course0==1) {
            echo '<script>alert("No videos found")</script>';
        } else {
            echo '<script>alert("No courses found")</script>';
        }
    }
    header("Refresh:0");
}
```

ack_removed returns acknowledgment message for item removed

```
function ack_added($vid1course0) {
    if($vid1course0==1) {
        echo '<script>alert("Video Added successfully")</script>';
    } else {
        echo '<script>alert("Course Added successfully")</script>';
    }
    header("Refresh:0");
}
```

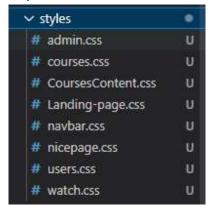
ack_added returns acknowledgment message for item added

admin.php

```
💏 admin.php U 🗙
php > * admin.php
      require "database.php";
      db = new DB();
      if (isset($_POST['add_course'])) {
          $c name = $db->escapeString($ POST['course name']);
           //$c_auth = $db->escapeString($_POST['course_author']); // Not currently used
          $c_desc = $db->escapeString($_POST['course_description']);
          //$c_link = $db->escapeString($ POST['course link']);
          $c_imag = $db->escapeString($_POST['image_link']);
          $c_track = $db->escapeString($_POST['course_track']);
          $cadd = $db-> addCourse($c_name, $c_desc, $c_link, $c_imag, 0, $c_track);
           if ($cadd)
              ack_added(0);
       if (isset($ POST['add video'])) {
          $v_name = $db->escapeString($_POST['video_name']);
           $v_link = $db->escapeString($_POST['video_link']);
          $c_id = $db->escapeString($_POST['course_with_vid']);
          $vadd = $db->addVideo($v_name, $v_link, $c_id);
          if ($vadd)
              ack_added(1);
       if (isset($_POST['remove_course'])) {
           $course_id = $db->escapeString($_POST['courses']);
           $course_rem = $db->removeCourse($course_id);
           ack_removed($course_rem, θ);
```

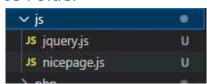
Contains all admin page functionalities (add course, remove course, add video, remove video).

Styles Folder



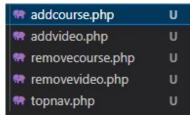
Contains all CSS style sheets for all pages

JS Folder

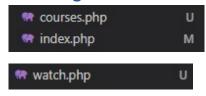


Contains all JavaScript files used

Admin Pages



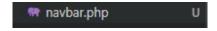
User Pages



The courses page shows all courses offered in a specific track dynamically.

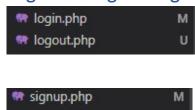
The index is our main/landing page.

Watch.php is our video page that shows all videos offered in a certain course

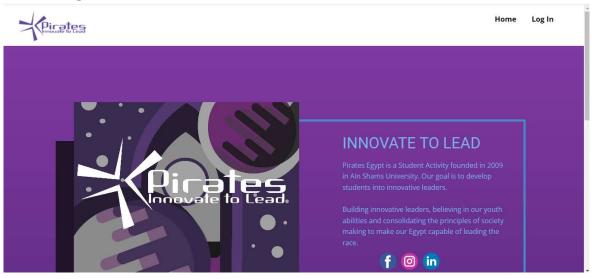


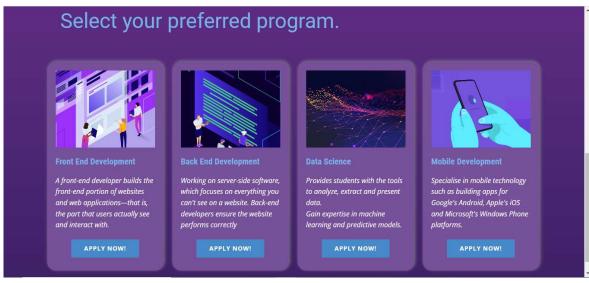
Navigation bar used for our pages

Login and logout Pages

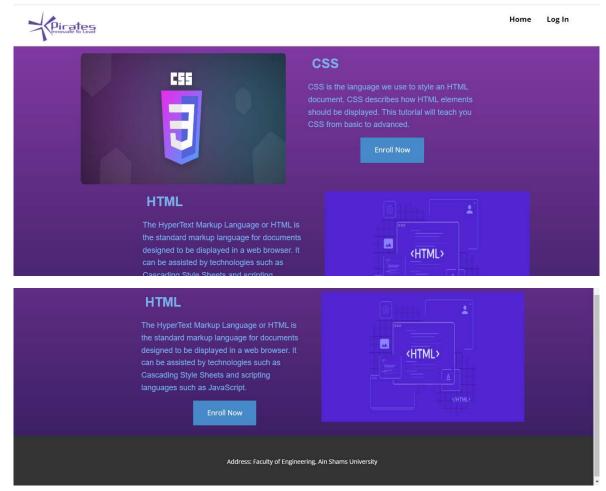


Pages View Index Page





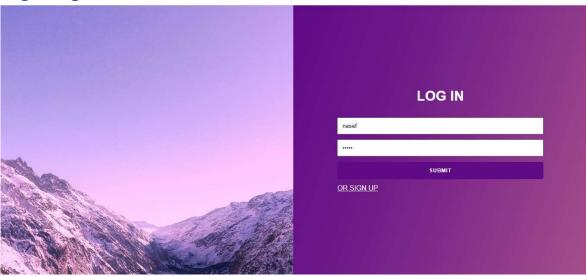
Courses page



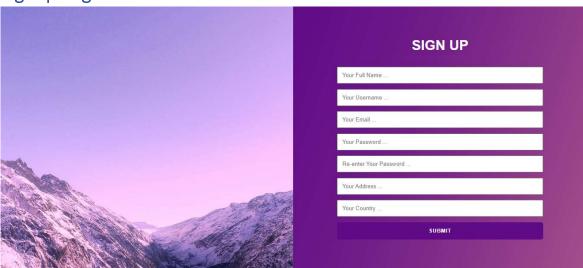
Courses Content Page



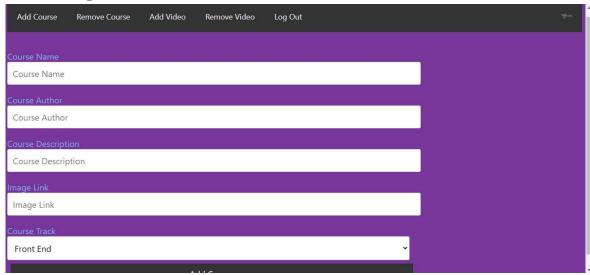
Login Page

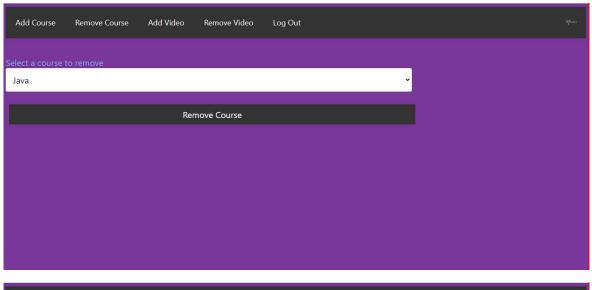


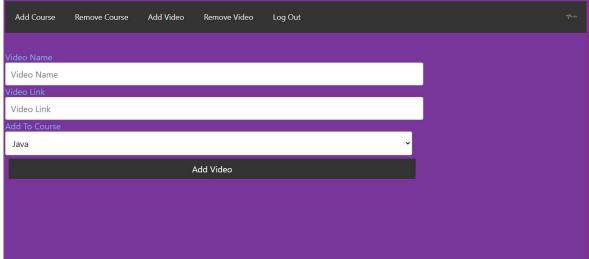
Signup Page

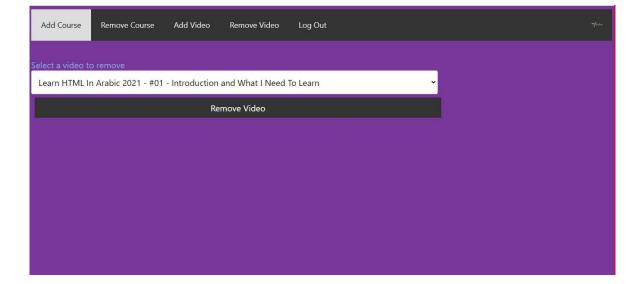


Admin Pages









Jira link

https://pirates-

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35&shared=&atlOrigin=eyJpIjoiYWJiMzY2MjZhZTRhNDE1YmEzYWZmZDBkY2U4N GVjODgiLCJwIjoiaiJ9

GitHub link

Includes php code, css code, and js code

https://github.com/Pirates-Website/Pirates-website