HENRY HEFFERNAN

Introduction to IT: ITWS 1100

Final Quiz: April 25, 2022

Place your name on the top of this document in the header

Enter your answers directly into this document (unless instructed otherwise)

All answers should be Detailed and in be in Your Own Words, and use proper grammar

There are 3 main questions on this test. Make sure you complete all sections of both.

Make sure your answers use an alternative font and/or color – (not black or red)

As per our normal – create an issue and a branch for this quiz called quiz3

Place all quiz specific documents including this one under your iit folder in a folder named

quiz3

Copy the contents of the quiz 3 assignment file – which you just extracted to see this file – into your quiz3 folder

Save this document as *yourRCSID-yourName*-S22Quiz3.docx

Create a readme file and discuss any relevant information about the lab, include at least:

your GitHub id, Repo name, and Discord handle.

When finished with the quiz, after pushing to GitHub, zip your iit folder into a file named

*yourRCSID-yourName*-S22Quiz3.zip

Submit it to LMS

Commit your changes as instructed below and push to GitHub

*NOTE: You are not to discuss this quiz with anyone. You are not to reference old (previous semester) submissions for ‘help’ or guidance. You may not solicit or receive help online or in-person. You may reference online resources, and you may use the notes from this class, but all work must be your own and you must figure out the solutions on your own.*

Remember to save as you go,

Good luck!

1. HTML, CSS, JavaScript, jQuery, PHP, and then some … (3 parts - 60 Points, 45 min)

In lab 3 you built a simple website using (primarily) static HTML. In Quiz 2, you enhanced your website with jQuery and jQueryUI. In Lab 9 you modified your projects page to read from a JSON file using jQuery and AJAX.

Now I want you to prepare to repurpose your websites again. This time, I want you to prepare to build them using data stored in your DBMS and setup your pages using PHP. (You should refer to lab 10 and to the in-class exercise on PHP)

**Note**: You do not need to execute any code in either SQL or PHP although it is an excellent way to check your work.

1. SQL – In the file named quiz3.sql, which is placed in the provided resources folder, enter the commands to: (20 points, 15 minutes)
   1. Create a database named, *iitQuiz3*
   2. Create a table named, *myProjects*
      1. Make sure you have a primary key which will autoincrement
      2. Create the fields necessary to store your project menu information – no data beyond what you stored in lab 9 is needed
   3. Insert data into your table containing the information necessary to match your project data from lab 9
2. PHP – Write the **PHP code** to do the following: (add it inline below) (20 points, 15 minutes)
   1. Check to see if the page was requested by a GET or POST (and explain how this works)

<?php

if ($\_SERVER['REQUEST\_METHOD'] === 'POST') {

echo "Hello POST Request";

} else {

echo "Hello GET Request";

}

?>

$\_SERVER contains server information and specifically is an array that contains the headers. Indexing ‘REQUEST\_METHOD’ gives us the request method used to access the page.

* 1. Connect to your SQL Database (and explain your choice)

<?php

$conn = new mysqli("localhost", "root", "password", "iitQuiz3");

if ($conn->connect\_error) {

die("Connection failed: " . $conn->connect\_error);

}else{

echo "Connected to DB";

}

?>

The function mysqli connects to a database given the IP address, username, password and database name as its parameters. We check to see if the connection is successful by seeing if the variable $conn has a connection error, if it does, log out the error. If is it successful however, we will see Connected to DB echoed

* 1. Select the relevant fields from your table in order of your projects (only include the field that would be shown on screen)

<?php

*// ... Some sort of connection code ...*

*// let $conn be the connection to the database*

$sql = "SELECT name, description, link FROM `myProjects` WHERE 1;";

$result = $conn->query($sql);

if ($result->num\_rows > 0) {

while($row = $result->fetch\_assoc()) {

echo "name: " . $row["name"]. ", desc: " . $row["description"]. ", link: " . $row["link"] . "<br>";

}

}

?>

We query the connection with our $sql and then we fetch\_assoc for each row. When selecting from the database with our query we only want the name, description and link so we make sure to restrict our selection to just those columns.

* 1. Insert new records into your table using a prepared statement (include all the necessary lines of code)

<?php

*// connect to database*

$conn = new mysqli("localhost", "root", "password", "iitQuiz3");

if ($conn->connect\_error) {

*// If connection fails output error message*

die("Connection failed: " . $conn->connect\_error);

} else {

*// Otherwise insert new row into database*

$sql = "INSERT INTO `myProjects` (`name`, `description`, `link`) VALUES ('LAB X', 'This is a description', 'link/to/lab');";

$result = $conn->query($sql);

}

?>

Again, once we connect, we simply query with our SQL statement that inserts the new data into the database.

1. Using index.php (included and from the PHP examples), explain in your own words: (be thorough and explicit) (20 points, 15 minutes)
   1. Summarize what this page does

index.php is a PHP page serves two purposes. It reads and writes data to the actors table in the local iit database which it connects to. It connects to the database and displays the actors in the “Actors” section of the page. There is also a form on the page. The form is validated using a function and if all fields validated, it will create a new entry into the actors table.

* 1. When and how is the form data being validated? Why is it being done this way?

The form data is through the javscript file iit.js. It validates the form using the validate function on the event onsubmit, which is when the user presses the save button. Having us validate the form through JS could reduce strain on our database from connecting to it too frequently, if we let’s say validated it always through PHP. Because if it’s not valid, the form doesn’t get posted and we don’t run a lot of PHP code.

* 1. What resource is being called when the form is submitted?

The iit.js file, and if it posts the index.php handles the actual posting.

* 1. How does the page on the server-side receive/utilize the data entered into the form on the client-side?

Using post requests. The client sends post requests to the server and the server handles the post requests (using PHP) and sends responses back.

1. SkySpecs and WhatsApp Cases: (20 points, 10 minutes)
   1. Referencing the video we watched from Danny Ellis, which strategy did he state SkySpecs ultimately decided to pursue? (5 points)

Focus on the wind industry pretty much exclusively, not expand into other markets.

* 1. Describe SkySpecs reasoning for making this decision. (5 points)

There were a few reasons. One is that it is incredibly risky to move into other markets with no clear idea of how successful they will be. There is also a large startup cost when moving into other markets and that can take up a lot of the bandwidth of the SkySpecs team.

* 1. Per the in-class discussion, what is the current biggest threat to the wind energy industry in the US (and by association, the SkySpecs business model)? (10 points)

The biggest threat is the wind industry itself losing subsidies from the government. The government subsidies are the reason why wind energy was so cheap to make, and with there being talks/plans of no longer subsidizing wind energy, this puts SkySpecs in a massive predicament as it might put a hard stop to the constant growth of the wind market.

1. Product Management: (20 points, 10 minutes)

Per the Guest Lecture:

* 1. What are KPRs and what are they used for? (10 points)

A KPR is a Key Performance Result. KPRs are used to quantifiably measure the performance of a specific objective over time. They are incredibly useful to get insights and get an understanding of progress with regards to those specific objectives.

* 1. What are 2 of the 4 most important traits of a great PMs? Describe them and include why they are important (10 points)

“Leaders” – Great PMs influence without an ego. No one likes being told what to do in, and if PMs aren’t great leaders that inspire their employees work hard and towards a good goal, they might find their own job more difficult. Leaders inspire and a good PM will inspire those working on the project to do their best work and create something great.

“Curious” – Curious PMs are great PMs. A good PM will want to learn from the people they manage so that it can help influence their project management decisions. If a PM isn’t willing to learn about the technicalities or specifics regarding a project or set of tasks they might find themselves not being able to properly determine the scope of those projects or tasks.