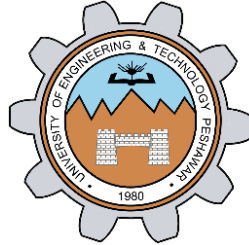


**INTRODUCTION TO
DYNAMIC WEB
CONTENT
LAB # 01**



Spring 2024

CSE-403L

Database Management System Lab

Submitted by: **Muhammad Musa**

Registration No.: **22PWCSE2157**

Class Section: **C**

"I affirm that I have completed this work with integrity"

Muhammad Musa

Student Signature: _____

Submitted to:

Engr. Sumayyea Salahuddin

Jun 12, 2025

Department of Computer Systems Engineering
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Database Management Systems Lab

LAB ASSESSMENT RUBRICS

Dimension	Exemplary	Acceptable	Developing	Unsatisfactory	Student Score out of 10 Marks
	10	8	6	4	
Overall Impression of Lab Report	Report is complete, well written, and organized appropriately with additional elements that enhance it. There are no spellings or grammar errors.	Report is complete, briefly written, and organized. There are few spellings and/or grammar errors.	Report is mostly complete, loosely written, and fairly organized. There are spellings and/or grammar errors.	Report is incomplete, sloppy and/or disorganized. There are many spellings and grammar errors that affect clarity.	
Submission	Report is submitted on time.	Report is submitted within 24 hours of due date.	Report is submitted within 72 hours of due date.	Report was more than 3 days overdue.	
Scientific Detail and Analysis	Descriptions of scientific terms, concepts, and theories are complete, apt, and provide detail insight in the field of databases.	Descriptions of scientific terms, concepts, and theories are mostly complete, apt, and provide insight in the field of databases.	Descriptions of scientific terms, concepts, and theories are partially complete, apt, and provide some insight in the field of databases.	Descriptions of scientific terms, concepts, and theories are either incomplete or missing, and provide minimum or no insight in the field of databases.	
Verbal Communication and Understanding	Answered clearly and accurately with sufficient knowledge.	Answered clearly and accurately with average knowledge.	Answered somewhat clearly and somewhat accurately with limited knowledge.	Answered wrongly and inaccurately with no knowledge.	

Marks: (_____ + _____ + _____ + _____)/4 = _____

Teacher Remarks and Signature: _____

Introduction To Dynamic Web Content

Objectives:

This lab aims at the understanding of:

- Basics of HTML
- The relationship between HTTP and HTML and how they are used together in web development
- The benefits of using PHP, MySQL, JavaScript, CSS, and HTML in web development, including their individual strengths and use cases
- Knowledge about the Apache web server
- The principles of Open-Source software development and its importance in the web development community

Lab Tasks:

Task 1.1: Write answer to the following questions:

1. *What four components (at the minimum) are needed to create a fully dynamic web page? [2 M]*
HTML5, CSS3, JavaScript, MySQL and a backend language (such as PHP)
2. *What does HTML stand for? [1 M]*
HTML stands for Hypertext Markup Language.
3. *Why does the name MySQL contain the letters SQL? [1 M]*
MySQL contains the letters "SQL" because it is a relational database management system that uses Structured Query Language (SQL) for managing and manipulating data.
4. *PHP and JavaScript are both programming languages that generate dynamic results for web pages. What is their main difference, and why would you use both of them? [2 M]*
We would use both because PHP handles server-side tasks like interacting with databases, while JavaScript handles client-side interactions.
5. *What does CSS stand for? [1 M]*
CSS stands for Cascading Style Sheets.
6. *List three major new elements introduced in HTML5. [1 M]*

Three major new elements introduced in HTML5 are <canvas>, <audio>, and <video>

7. *If you encounter a bug (which is rare) in one of the open-source tools, how do you think you could get it fixed? [1 M]*

To get a bug fixed in an open-source tool, I can report the bug through the platforms like GitHub, provide details about the bug and can even submit a fix if capable.

8. *Evaluate yourself and write a note about your understanding of this lab.*

I have understood fundamental concepts of dynamic web pages using HTML, CSS, JavaScript, and PHP. Additionally, I have learned about new HTML5 elements and understand the process of bug reporting and contribution in open-source projects.

Task 1.2: What is a Framework? List top three frameworks used for PHP language. How do these help developers? Write in your own words. ChatGPT answer will be awarded zero marks.

A framework is a pre-built collection of libraries, tools, and conventions that provide a structure for developing software applications.

The top three frameworks for PHP are Laravel, Symfony and CodeIgnitor. These help developer to build application logic rather than common functionalities. These are secure and can be scaled and need less efforts.

Task 1.3: What is the difference between Library and Framework? Write in your own words. ChatGPT answer will be awarded zero marks.

As a developer we should follow the convention and rules of a framework because it drives the application. While a library contains some functions or classes that can be used if required.

Task 1.4: What is PHP MVC Framework? Give examples. (HINT: LARAVEL, CODEIGNITER, etc.). Write in your own words. ChatGPT answer will be awarded zero marks.

PHP MVC refer to the architecture of software that divides application to three components; Model, View and Controller which help in code reusability, scalability and security. Some examples of PHP MVC architectures are Laravel, Yii, CakePHP etc.

Task 1.5: What differences do you see in SQL and NoSQL Databases? Mention in detail. (HINT: SQL Databases include MySQL, ORACLE, SQLITE, MS ACCESS, etc.; while NOSQL Databases include MongoDB, CouchDB, HBase, Cassandra, Neo4j, etc.) Write in your own words. ChatGPT answer will be awarded zero marks.

SQL databases, like MySQL and SQLite, are relational databases that store data in tables with predefined schemas. They are suitable for structured data and complex queries but may face scalability challenges.

On the other hand, NoSQL databases, such as MongoDB and CouchDB, are non-relational databases that offer flexibility in data storage, allowing for schema-less data models like documents, key-value pairs, or graphs.

Task 1.6: What is web hosting and domain? List some popular hosting websites. Write in your own words. ChatGPT answer will be awarded zero marks.

It is a service to publish web application to the internet. It is unique address that a user type to access a website. Some hosting websites are GoDaddy, BlueHost, Heroku, Hostinger, DreamHost etc

References:

- <https://www.php.net/>
 - <https://www.cloudways.com/blog/best-php-frameworks/>
 - <https://www.forbes.com/advisor/in/business/software/domain-vs-hosting/#:~:text=Domain%20and%20hosting%20are%20two,domain%20extension%20like%20.com%2C%20>
 - <https://www.ramotion.com/blog/dynamic-web-application-development/#:~:text=A%20dynamic%20web%20application%20is,%2C%20system%20events%2C%20and%20information>.
 - <https://getbootstrap.com/docs/5.3/getting-started/introduction/>
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Conclusion:

In summary, our Database Management System lab has been a success, allowing us to achieve our objectives through hands-on tasks and theoretical exploration. This experience has enriched my understanding of core concepts of dynamic web content and their practical applications. I am eager to apply this knowledge in various contexts moving forward.

The End.