المملكة العربية السعودية
وزارة التعليم
جامعة جدة
كلية علوم وهندسة الحاسب

DatabaseCCDS-222

(21803)(03)

28/4/2025

Restaurant Search Application Report

Group Information:

Abdullah Atiah Alzahrani

Mohannad Abdullah Alamri

Naif Abdullah Alessa

Faisal Abdullah Alotaibi

Supervision of Dr : Tariq Mohammed Alsahfi

The Outline:

Introduction to the Project:

This project aims to enhance user experience by merging SQL and NoSQL capabilities into a web application, In this project we present a web-based application that integrates both SQL (MySQL) and NoSQL (MongoDB) databases. The goal of this project is to demonstrate how a server-client model can be developed using modern web technologies to authenticate users and search restaurant data efficiently.

The application is divided into two main functionalities:

- **Login & Registration System** powered by MySQL.
- **Restaurant Search Interface** driven by MongoDB.

Steps to Implement the Project:

1. Create the restaurant_app database with the user table for login and registration.
2. Create an HTML login page connected to the SQL database.
3. Implement the Java code to process login and registration
4. Create MongoDB database with restaurant collection.
5. Create an Basic HTML form that sends credentials to the server, Allows users to register with a unique email and Form for users to search restaurants based on partial or full input across multiple fields.
6. Implement Java logic to query MongoDB and return results.
7. The flow becomes like first the User visits the login page then Upon successful login, user is redirected to the search page on search, results are pulled from MongoDB then the user Logout clears the session.

We Learn from This Project:

We learned Working with both SQL and NoSQL databases.

Managing sessions and error handling in web applications.

Applying front end and back end integration.

Querying MongoDB with regular expressions.

Secure user authentication using password hashing.

Obstacles That You Face During the Project:

There are issues we faced During working on the project and some of them are:

Debugging connection issues.

In Front End Feedback we faced some issues in choosing and Displaying user-friendly error messages like: “Registration Faild” "Email already exists", "Incorrect login").

Ensuring compatibility between stored hashed passwords and user input required learning how (bcrypt) works.

Configuring both MySQL and MongoDB connections simultaneously.

Resources That We Use During the Implementation:

MongoDB and mysql-connector documentation.

Code and guidance from Previous MongoDB class labs, dataset and implementation.

Stack Overflow for debugging and configuration help.

MongoDB Tutorials.

Summary:

In summary, This Report demonstrates how SQL and NoSQL databases can be in modern web applications. It highlights real-world skills such as log in securely, data validation and secure coding. Also this project enhanced our understanding of full-stack development and reinforced best practices in secure coding in modern software development.

Distribution of Duties:

1. Abdullah Atiah Alzahrani: Responsible for the overall project management and the login & registration backend, HTML login form, password hashing.
2. Mohannad Abdullah Alamri: Wrote and organized the project report documentation, Connected the front-end forms to Flask routes and Created sample data and tested the cases also.
3. Faisal Abdullah Alotaibi: Set up the MongoDB database with restaurant data, Created the search functionality and query filters.
4. Naif Abdullah Alessa: Displayed search results with proper formatting, Implemented error messages and flash notifications, Tested the login and search features.