Practical Connection Assignment

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Database Systems

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Date: December 3, 2023

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I have previous experience working in the field of software testing. The course “Database Systems” have provided a very good overview of database and the inner workings of the database. The textbook by (Elmasari & Navathe, 2016) is a very good companion to the course.

The course provided a solid foundation in database concepts, the principles that govern the organization and storage of data. This knowledge will prove to be invaluable in my role as a tester, where a deep understanding of the database structure is crucial for designing effective test cases.

The following topics has been discussed such as database concepts, identification and handling of anomalies, programming paradigms and query optimization. This knowledge has been a game-changer in my testing endeavours. Understanding the root causes of anomalies has allowed me to design test cases that specifically target these scenarios.

**Programming Paradigms and Query Optimization:**

The course not only focused on theoretical aspects but also delved into practical skills such as SQL, the language used for interacting with relational databases. This has been directly applicable in my testing role. Writing complex SQL queries to validate data integrity, retrieve specific sets of data for testing, and ensuring proper indexing for query optimization are now integral parts of my testing toolkit.

Understanding the impact of different programming paradigms on database performance has been crucial in identifying potential bottlenecks.

**Data Security and Privacy Concerns:**

The course touched upon data security principles, shedding light on issues related to user authentication, authorization, and encryption. This knowledge is indispensable in testing scenarios where data security is paramount. Designing tests that probe the system's ability to protect sensitive information from unauthorized access or potential breaches aligns with the principles learned during the course.

**Application in a Real Testing Scenario:**

In a recent testing project involving an e-commerce platform, the application of database systems knowledge was particularly evident. The system under test had a complex database structure, with interdependencies between customer profiles, orders, and inventory. Leveraging the knowledge gained from the course, I designed tests that not only validated the surface-level functionalities but also delved into how changes in one part of the system affected the entire database.

Concurrency Control and Transaction Management:

The course extensively covered concurrency control and transaction management, essential aspects of ensuring data consistency and reliability in a multi-user environment. This knowledge has been directly applicable in scenarios where multiple users are simultaneously accessing and updating the database.

In my opinion the databases tough they are not managed directly but they are inevitable for any development. The databases that are used either as a home or in cloud should be managed without understand the intricacies of the database development will help us Create, Read, Update and Deleting records should be efficient.

The knowledge and skills acquired have empowered me to not only identify and address anomalies effectively but also to design tests that go beyond the surface, probing the intricate relationships within a database.

The closure and the functional details provided in the Week 6, gives a thought proving about the implications in the transitivity and assosciativity.

# References

Vaswani, V. (2010). *MySQL database usage & administration*. Mcgraw-Hill.