**Eric Williams-Phillips**

**CSD 310**

**Sue Sampson**

**Module 1.3 Assignment | Basic Comparison of Relation vs NoSQL Databases**

In the context of relational databases, relationships are connections made between two or more tables in order to retrieve tailored data. According to IBM, there are three different types of relationships. In a one-to-one relationship, each relating table can only have one record on each side of the relationship. In one-to-many relationships, the primary key table can have one record that can relate to multiple of another table but not vice versa.

The strengths of relational databases lie in their strong consistency and integrity. In relational databases, changes to data are global depending on what relations are present. With SQL being the language for these databases, it is easy to make commands that can manipulate, categorize, and present data. Where relational databases fall short is their limited scalability and speed. They’re typically preferable when analyzing smaller data sets.

Non-relational databases on the other hand do well with larger data sets as they do not require table links and do not have to handle the many relationships that may need to be created between tables. This data is usually represented visually with graphs and documents. This type of database can be quickly and easily accessible and handles scaling very well. Conversely, because there are no explicit relationships in this type of database, the data can lack integrity and sometimes be seen as inconsistent.

MySQL is a relational database management system (RDBMS) with various features that make it an ideal platform for creating and managing relational databases. Some of these features include compatibility on many operating systems. It is available on not only Windows, but Linux and multiple versions of UNIX. It also supports dual passwords for higher security. MongoDB is schema-less; because there are no required relationships, collections can contain a grouping of many different types of documents with no issue. Another cool feature of MongoDB is its high availability of data. According to GeeksForGeeks, data is actually copied and sent to multiple servers in the case of loss, corruption, or a server failure.

Resources:

*Database relationships*. IBM. (n.d.). https://www.ibm.com/docs/en/mam/7.6.0?topic=structure-database-relationships

GeeksforGeeks. (2021, June 6). *What is mongodb - working and features*. GeeksforGeeks. https://www.geeksforgeeks.org/what-is-mongodb-working-and-features/#

*MySQL features - javatpoint*. www.javatpoint.com. (n.d.). https://www.javatpoint.com/mysql-features

Pawlan, D. (2023, October 3). *Relational vs. Non-Relational Database: Pros & Cons*. RSS. https://aloa.co/blog/relational-vs-non-relational-database-pros-cons#:~:text=Relational%20databases%20can%20provide%20strong,data%20and%20real%2Dtime%20processing.