Unit 10

Working with SQL

(Summary Post)

Discussion Forum – Alternates to SQL

Over three weeks, consideration was given to the trend of NoSQL databases. Compared to relational databases, NoSQL does not have the notion of schema, which is their most significant benefit. “Benefit” because their focus is on quick data retrieval and storage of *unstructured* data. Another advantage of NoSQL databases is their open-source nature, which leads to lower setup costs than relational databases. Another benefit is that the semi-structured or unstructured data of NoSQL databases allow the database to dynamically accommodate the needs of a system instead of the system adapting to the needs of a database (Kunda & Phiri, 2017). Lastly, NoSQL also has lower administration and running costs.

Given the benefits of NoSQL, businesses must consider that NoSQL databases are not as mature as relational databases—operating since the 1980s. Also, for consideration is the *type* of data they wish to handle and the *transactional* nature of the system’s data. Relational databases implement the ACID model (which emphasises consistency), while NoSQL databases favour BASE (which emphasises scalability) (Kunda & Phiri, 2017). Both achieve the ultimate end goal: to persist data, but the recency of data differs between the two. Another downside is that NoSQL databases do not have a standard query language (Lee et al., 2013). Such a lack implies that each NoSQL vendor will provide their implementation language.

NoSQL databases will not wholly replace relational databases. That is, until industry support matures, providing better business intelligence integration and admin tools and increasing the number of skilled developers capable of developing with NoSQL databases. But with all things, the industry takes time to improve on existing technology. NoSQL databases will eventually be able to compete with their relational databases in transaction processing comfortably.

References

Kunda, D. & Phiri, H. (2017) A comparative study of nosql and relational database. *Zambia ICT Journal*, *1*(1):1-4.

Lee, K.K.Y., Tang, W.C. & Choi, K.S. (2013) Alternatives to relational database: comparison of NoSQL and XML approaches for clinical data storage. *Computer methods and programs in biomedicine*, *110*(1):99-109.