Caleb Stark, 5/26/2024

Assignment 1.3, Basic Comparison of Relational vs. NoSQL Databases

“In the context of relational databases, what are relationships?”

Relationships are how tables can relate to each other. Within a relational database you utilize keys to link different databases inserting the foreign key on one database that then can prompt a primary key in a different database. As an example lets say you have a table of employees and what they are trained on something like example 1-1. Now inside of that table you have a foreign key that is the employee id that id then could be used in a different table example 1-2 to pull up their personal information. This would not only make it clear what each table can be used for but also separation of information for different privilege levels. (Chapple, 2021)

Example 1-1 Example 1-2

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name | Function Trained in | Employee ID |  | Employee ID | Full Name | Phone # |
| Lucas | Pulling | 0034242 |  | 0034242 | Lucas A Penny | 999-999-9999 |
| Sara | Putting | 8792422 |  | 8792422 | Sara L Jackson | 555-555-5555 |

“What are the advantages of relational databases?”

Relational databases utilize interconnected tables with primary and foreign keys to relate data between different tables. The advantages that come along with this model is quick effective searching of information, enhanced data security due to ability to limit access to different tables, strong data integrity and normalization requiring certain characteristics to align before implementing it into your database. (Pedamkar, 2023)

“What are the advantages of NoSQL databases?”

NoSQL databases are great for storing large quantities of data and files. This style of database allows users to insert different file types and different methods of data storage directly into the database making it very easy to place data into the database. NoSQL is also very scalable, requiring just the addition of more systems to add additional capacity to the database. (Foote, 2022)

”What are the disadvantages of relational databases? “

Rational databases are only easily scalability in readability with the write portion being a much harder and more extensive process. Can be difficult to make changes to structure of the database once it has been established.

”What are the disadvantages of NoSQL databases?”

Identify at least two features of MySQL and two features of MongoDB, and describe what they are and how they are used.