

Reisha Puranik

Professor Labouseur

Data Systems

3 September 2020

Lab 1: PostgreSQL

Data vs Information:

One database that is still used today is Facebook. Some of the elements of data stored in Facebook are all of the different users and the information is what is listed about them in their profile. For example, when clicking on a user, their profile will include different aspects about them such as their birthday, where they went to school, where they are working, where they live, a profile picture and more. Another element of data and information stored is how Facebook recommends new friends. The users are the data elements and their information is used to suggest new friends to users based on mutual friends. Data is extremely important but it has to be organized in a way that makes it easy so that users can understand the information. For example, if users could only see the name of the person they are friends with on Facebook, and they did not have information about where they lived, where they went to school, or a profile picture, the user would not be sure if that is the person they intended to friend on Facebook because they did not have the specified information since there are hundreds of people with the same name on Facebook. Without the name of the user on Facebook which is the data, the information might fit multiple descriptions of someone they know but not have the correct data to fit the context. Overall, data needs information and information needs data because without the context of what specific items mean and what they are, everything would be useless.

Data Models:

While the relational model is built using tables, the hierarchical model uses a tree-like structure to represent the data. However, the structure of the hierarchical model makes it difficult to write high level programs because it is a physical-level model unlike the relational model which uses tables and is much more simple to use for high level programming. The network data model is a graph-like structure which is also a physical-level model. This model also makes it hard to write high level programs. The relational model provides the simplest and easiest way of programming the data at the highest level. Also, XML falls under semistructured data models and is usually added to relational database management systems. For XML to be a model for data storage, I think it is a good choice but not the best choice considering it is usually a feature of relational models, meaning that relational models do not have as many limitations as an XML model might have. I think that because relational models are more preferred in database management systems because of how easy they are that XML models may not be the best choice due to semistructured data models not being as convenient.

