Data vs Information

An example of a database in use today would be a hotel registry. The hotel registry would contain data like: name, credit card info, phone number, room number, rooms available, dates, etc. The registry would sort the data, grouping it together to create information. A person would each have an entry in the registry and would have their name, credit card info, phone number, how long they are staying, date they are staying and they would be assigned a room for that date. If we put all that information together we get information on the hotel resident.

If we just looked at one of the data points, like credit card info, we would have no idea what it meant alone. We might be able to figure out the credit card company by the numbers but we would have no idea who the credit card belonged too or how much to charge them if they had stayed in the hotel. Once we figure out the information surrounding the credit card info, we can understand that the credit card belongs to Charlie Smith and he is staying in room 112 for two nights on 1-30-17. Now we can correctly charge the credit card, and make sure his room is empty by 1-30-17.

Data Models

A Hierarchical database is a model where the data is structured into a tree structure. Data is ordered down from the top of the tree and connected to each other through links. The Hierarchical database fails when there is inconsistency between data and extra data that might not fit in the hierarchy.

A Network pre-relational database is a model like the hierarchical database but data can have more than one link attacked to it. So this model fixes inconsistency between data we had with the hierarchical but still has trouble with extra data that has no place. The relational model fixes these problems. The relational model consists of tables with data that relate to each other by being one to one, one to many, many to one or many to many. The database will automatically get rid of inconsistencies because if data is linked to something that doesn't exist, it will be delated automatically.

An XML database is more document oriented than hierarchical or network models but it still shares a lot of similarities with hierarchical model. XML also is sequence oriented which makes order important. I don't think that XML is a good model for data storage because it is harder to sort through and might lead to duplicate data and inconsistencies. The relational model is a better model for data storage.

My Desktop with pgAdmin running feat. background picture of me atop Angles Landing in Zion National Park.