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Lab 1

Data versus Information

A database that is in use today can be found here at Marist. The clubs here at the school operate with the use of a simple database to keep track of all the club members. For example, the database for the Spanish Club has a database with elements of the data containing: First Name, Last Name, CWID, Email Address, Meetings Attended, Service Points, and Priority Points. Without knowing the database was for a specific club at Marist, and without the labels mentioned above, an entry in the database would state “Michael, Gutierrez, 12599555, michael@marist.edu,5,1,1.” Without the necessary context, it is very hard to discern what the data is used for and for whom it belongs to. Without knowing the database was used for a club at some school called Marist, you could interpret the data in an infinite amount of ways. For example the number 12599555 could be an ID number, an account number or a Social Security Number. Even with labeling such as First Name or Last Name, it does not give you any real information.. If you are given the fact that it belongs to a club’s database at Marist College, you would still not know to which club the data belonged to. In order figure out information from the given data, you would need to know that the data belongs to Marist College, a database containing the roster for the Spanish Club, and the appropriate labels such as CWID.

Data Models

The Hierarchical Model is a model for data where in the data is organized into a structure resembling a tree. The data is stored through collections of fields, each one of them containing a single value. These are known as a records and they are attached to one another through links. Each child record only has one parent record, however a parent record can have multiple

child records. In order to get any data using this model, a traversal is needed beginning from the root node. The shortcoming of this model is that there can be duplicate data, where as in the Relational model does not have this problem due to the fact that is a self governing model. The Hierarchical model also has an issue records being unused which caused programmers to find roundabout methods to circumvent this problem.

The Network Model is a data model that is similar to the Hierarchical. The key distinction between the Network Model and the Hierarchical Model is that the former of the two model allows for each record to have multiple parent and child records. This results in the model forming a graph-like structure. This distinction causes the model to lose its hierarchical definition. The Network Model addresses the duplication of data however it does not address the Hierarchical Model's previous issue of roundabout methods for dealing with unused data.

Regarding XML, it is antithesis for data storage! It should be used for the transportation of data.

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