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CMPT 308
Lab 1

Resources I used: the lab section of this class, my notes, <http://www.techmynd.com/advantages-disadvantages-of-xml/>, and <http://www.informit.com/articles/article.aspx?p=367637&seqNum=2>.

Data vs. Information

A huge database in use today is Facebook. This social database takes thousands of pieces of data from each user on the website and connects them together, creating information. For example, Facebook takes lists of names, birthdays, photos, and interests and organizes them into profiles, which creates information. An example of meaningless data on Facebook would be just a list of names. Obviously, we know that they are names, but there is no distinction as to who they are. When Facebook converts this data into information, and shows you the list of names with mutual friends, it's easier for the users to distinguish who the people are by associating them with their current friends. It can also add pictures, hometowns, ages, and plenty of other data to the name, which shows you who the person is. The information Facebook creates is clearly valued very highly, as evidenced by the hundreds of thousands of users who are using a joining Facebook every day. Once the data is given context, it's easy to connect with your friends and therefore make use of this social network.

Data Models

The hierarchical model for databases had many shortcomings. One huge problem was the lack of place to put things that hadn't been used yet. In our class example, the model was unable to show Item 4, which neither player had acquired yet. It also has Item 2 twice, because both players had possession of it. The issue with this is that there is now redundancy created, and it makes it much easier for Item 2 to be inconsistent because its data now needs to be in both places. Another data model, the network model, was slightly better than the hierarchical model, but still had its problems. One problem this model eliminated was the redundancy, because it showed only Item 2 once, with both players connected. With each datum only displayed once, it's easier for the user to eliminate the problem of inconsistency. However, the same problem exists where unused data isn't displayed. An issue with both models is that the user must know the structure in order to navigate, which makes them harder to use. XML, while it has its advantages, is not necessarily the best model for data storage. Like the hierarchical model, its syntax is redundant and therefore creates inconsistency issues, and expressing relationships can become difficult. Based on this information and its similarities to the previous models, XML is not a model I'd recommend for data storage.

