Rafael Marmol

Database Management

Lab 1

<center>Data Models</center>

The Hierarchical Model is set up like a tree diagram having branches coming out connecting bigger concepts with smaller concepts. For instance, have World of Alan at the top, which branches out to players 1 and 2 and they branch out to their respective items. However, this model cannot have two instances like Player's connect to the same item. Instead there would have to be a separate item for each player. The Network Model is also set up like a tree diagram, but unlike the Hierarchical Model, it can connect two players to the same item instead of making another instance of the same item. However, this model cannot account for unused items and would have to make another player called "other items" since everything needs to be connected. All of the shortcomings in the Hierarchical and Network Models can be solved with the Relational Model, which is set up like relational lists. For example, one list contains players, one contains inventory, and another for items. Between each list is a relationship showing either one-to-many or many-to-one. This is how the Relational Model is the only one of these three to show many-to-many relationships. The Relational Model also follows all of the aspects of ACID (Atomic, Constant, Independent, Durable) while Hierarchical and Network do not. I think XML is a good model for data storage because it's of a combination between a tree model and queries so it has aspects of all the mentioned models and it's very good for storing large amounts of data.