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Data Models

The hierarchical database model organizes data into a tree-like structure. The nodes are tiered, with parent and child nodes linked together. In this model, it is mandated that each child can only have one parent node, although one parent can have many child nodes. This leads to the possibility of redundancy. The network pre-relational database model is an improved version of the hierarchical model. The layout is identical (a tree-like structure); however, child nodes are allowed to have multiple parent nodes. These links can then interlock to create a generalized network structure, greatly reducing the need for redundancy.

On the other hand, the relational data model stores data in pre-determined tables that contain multiple elements of related data in one place. There is no specific structure to the data, but its popularity comes from the fact that its layout is very intuitive to the human mind. We are able to easily understand data when it is organized in tables with related data.

After some research on the viability of XML as a data storage language, the facts seem to point to XML as being a poor language for the purpose, and I agree. The greatest drawback is the fact that the XML files needed to manipulate data storage would be very large due to the fact that the language is quite verbose. The most important benefit of using XML as a data storage language would be the fact that it is more readable than SQL, and it would allow transferring data between two different database systems easier.