# Data Models

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A hierarchical model is set up to be a collection of nodes with parents and children. How it is actually stored on the computer is irrelevant for the purposes of the person interacting with the model. There is data independence this way, and you can access data with tree traversals. However, this means that you need to know the structure ahead of time. Otherwise, the structure needs to be investigated. It also has the potential for duplicated data, which both wastes space and could possibly cause data inconsistency. A network data model is set up similarly to the hierarchical model. The difference is that instead of having duplicate data, two parents can share the same child. While this fixes the aforementioned data duplication issue, the other issues in the hierarchical model carry over to the network model. The relational model of tables of rows and columns with relationships between them is much better. Since XML is a tree structure, it has similar problems, meaning a relational data model would be better for a database.