How the Chen ERD Helps Shape the Overall Relationship Between Tables

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**The Advantages and Disadvantages of Using a Chen ER Diagram**

The development process will die without the use of the Chen Entity Relationship Diagram, or at the very least, some sort of 1st-grade understanding detailing the implementation of the database, either way, the project could become overly complicated, or things can be straightforward.

**Advantages of the Chen ER Diagram**

The database must be represented visually using the Chen ERD diagram. The ER diagram is easy to read and comprehend. Additionally, it produces a mental image of the database and offers insight into the database design. This aids in the designer's comprehension and visualization of all database concepts, including data kinds, relationships, and data flow.

Additionally, because the design is simple to understand and convey, it may be utilized to describe the database model to the client. The simple relational representation seen in ER diagrams, like the one below, makes it simple to map entity relationships. The Chen Entity Relationship Diagram also aids in removing duplication. Since redundancy causes inconsistencies, affects data integrity, and lowers a DBM's efficiency, it is a serious issue and a nightmare for database designers.

**Disadvantages of the Chen ER Diagram**

Some key disadvantages worth mentioning involve a limited supply of optional relationship representations to describe the table’s involvement with one another. The model is limited in relationships as compared to other data models. Although it represents a brief understanding of the DB's infrastructure, it still requires a representation of data manipulation. The ways of showing data manipulation in ERD are comparatively complex making the model find only limited use.

As mentioned in my previous discussions, there are no specified industry standards for notation, therefore a developer may under or overcomplicate the inner workings of the infrastructure at large. The notation standards vary depending on the choice of a developer generating confusion while reading the diagrams.

**Entity Relationship Data Modeling**

Diagram

Description automatically generated

**Data Dictionary**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Entity | Attribute | Field Length | Data Type | NULL? | Relation |
| Customer | customerID  name  address  email | 5  15  30  15 | Int  String  String  String | not null  not null  null  null | PK |
| Product | productID  name  description  price | 5  15  30  10 | Int  String  String  Currency | not null  not null  null  null | PK |
| Order | orderNum  productID  paymentID  orderDate  shipDate | 5  5  5 | Int  Int  Int  Date  Date | not null  not null  not null  null  null | PK  FK  FK |
| Payment | paymentID  customerID  cardNum  expDate  ccv  zip | 5  5  16  3  5 | Int  Int  String  Date  String  String | not null  not null  not null  not null  not null  not null | PK  FK |

**References**

Admin AfterAcademy. (2019, December 19). What is an E-R model? AfterAcademy. Retrieved October 24, 2022, from <https://afteracademy.com/blog/what-is-an-er-model>