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Web 335: Discussion 1.1

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Database Diagrams

“Database diagrams graphically show the structure of the database and relations between database objects” (PhpStorm, 2022).

Diagrams are used to show data in logical and business rules. When creating a database, it becomes easier to analyze business information. They are also used to troubleshoot and find issues within the program.

An ERD, or Entity Relationship Diagram, is a way to visually illustrate how structures of data relate to each other. In ERDs’ there are 4 important terms to know.

**Entity**: this represents an object that holds relationships. Each complete entity is called an entity set.

**Attributes**: are all the data that is held within the entity. There is simple, composite (hold more than one attributes within them), single- value, and multi-value attributes.

**Keys**: this refers to an attribute that is unique to the entity and can act as an identifier. There is super, candidate, and primary keys.

**Relationships**: when to entities have a connection, they are considered a relationship.

ERDs’ use a predefined language that consists of different shapes and symbols to define the type of relationship between entities and attributes.

**Entities**: represented as a rectangle. If its considered weak it has a box around it.

**Attributes**: represented as an oval. **Key** attributes are underlined. Multi-valued attributes have another oval around them.

**Relationships**: represented as diamonds. Weak relationships have a box around them.

There are many tools to help create ERDs’. Vertabelo works with many databases and can be easily shared with team members. Benefits include automatic salving, cloning, previews, and migration script generation. Lucidchart gives the option of creating manually or generating an ERD for you. Benefits of manually creating an ERD with Lucichat is the provided templates and shape libraries. The ERD can be automatically created by just importing the database.

Resources:

*Database diagrams | PhpStorm*. (2022, December 20). PhpStorm Help. <https://www.jetbrains.com/help/phpstorm/creating-diagrams.html>

LucidChart. (2017). *ER diagram tutorial*. Lucidchart.com. https://www.lucidchart.com/pages/er-diagrams

Jayawardhana, S. (2021, January 5). *Top 7 Entity Relationship (ER) Diagram Online Tools*. Vertabelo Data Modeler. https://vertabelo.com/blog/er-diagram-tools/