Database Management Project Report

By

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For completing my project for Database Management, I have chosen to build a small database design and SQL programming project. I have completed this project using XAMPP and SQL for building the ER diagram and then turn it into a schema diagram. (Built my entity relationship diagram and database schema un draw.io in UML diagrams Building table data and then queries in excel for now) This system uses multiple tables and is made with some moderate complexity to create different kinds queries for testing and data checks in addition to what was tested for this report specifically.

**Entity Relationship Diagram**:

Image:

A close up of a map

Description automatically generated

Description:

Here I have my Enity Relationship Diagram that shows the connections of each enitity that is used in this process. As well as the differnet attributes that represent each entity to help identifying them as standard, weak or associative enity types.I have no weak entities in this diagram as each enity has a primary attribute connected to it. This also shows that there are no weak relationships either, as a weak relationship is only created when connected to a weak entity.

**Database Schema Diagram**:

Image:

A screenshot of a cell phone

Description automatically generated

Description:

Here is my Database Schema Diagram, here is where I have the different entities with there attributes and the relationships with attributes that are apart of the schema. Here I connect the attributes of entities by there keys. Each entity with fake key versions of a primary key that is connected to one of the other listed entities.

**Relation Tuple Data**:

Here I have each of the entity and relationship tables that were shown in the schema but each one is filled with example test data that will be used later in this report when the data is tested using queries. Each Table is labeled by the name given from the schema to help with organization and all attribute names are different in order to avoid duplicate naming and confusion but the names are similar enough to see a connection when one appears.

**Query Work + Query Discussion**:

To demonstrate the functionality of the Entity Relationship Diagram and Database Schema, I have created three queries for testing the data and I have results for each one. After each query given and results of the test, there will be a discussion to explain the logic and the process of each query to make sure the process is fully understood and explained.

Query 1)

Query 2)

Query 3)