Ole Hochbrügge

DAT601 Assessment

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## Introduction

A crucial component of building and creating information systems is data modelling. Its goal is to conceptually depict data items and the connections among them to ease stakeholder dialogue and direct system deployment. Data modeling's primary goal is to comprehend the information that a company uses and collects and to translate that comprehension into a structured manner that both technical and non-technical stakeholders can readily understand. The business procedures and regulations of an organization should be correctly reflected in a high-quality data model, which should also be responsive to changing requirements over time. Data models come in a variety of forms, such as conceptual, logical, and physical models, each having a distinct goal and amount of complexity. Conceptual models are extensive depictions.

## Description of Conceptual Modelling

A structured representation of database ideas and their interactions is a conceptual data model. Establishing entities, their qualities, and relationships is the goal of developing a conceptual data model. The underlying database structure is hardly described at this level of data modelling. A conceptual data model is often created by business stakeholders and data architects.

Conceptual Data Model's three fundamental tenets are:

Entities, a tangible object

Attributes of an entity are its traits or possessions.

Dependency or affiliation between two entities is a relationship.

## Chen Entity-Relationship-Diagram (ERD)

A picture containing line, diagram

Description automatically generated

## Data Dictionary

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity Name** | **Description** | **Aliases** | **Occurrence** |
| Supplier | Supplies parts for the 3D Sensors | supplier |  |
| Part | Parts for 3D Sensor | part |  |
| Maintenance |  | maintenance |  |
| 3D Sensor |  | 3dsonsor |  |
| Staff |  | staff |  |
| Maintainer |  | maintainer |  |
| Administrative Executive |  | adminexecutive |  |
| SalesPerson |  | salesperson |  |
| Location |  | location |  |
| Zone |  | zone |  |
| Contract |  | contract |  |
| Subscription |  | subscription |  |
| Subscriber |  | subscriber |  |
| DataStream |  | datastream |  |
| Live 3D Video Stream |  | live3dvideo |  |
| Standard |  | standard |  |
| Gold |  | gold |  |
| Platinum |  | platinum |  |
| Super Platinum |  | superplatinum |  |

| **Entity Name / Relationship** | **Attributes** | **Description** | **Domain** | **Aliases** | **Composite** | **Derived** | **Nulls** | **Key?** | **Default Value** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Supplier** | Supplier ID |  | - | - |  |  | No | PK |  |
|  | Supplier Name |  | - | - |  |  | No | - |  |
|  | Address |  | - | - |  |  | No | - |  |
|  | Part Name |  | - | - |  |  | No | - |  |
|  |  |  |  |  |  |  |  |  |  |
| **Part** | Part ID |  | - | - |  |  | No | PK |  |
|  | Part Name |  | - | - |  |  | No | - |  |
|  |  |  |  |  |  |  |  |  |  |
| **3D Sensor** | 3D Sensor ID |  | - | - |  |  | No | PK |  |
|  | 3D Video |  | - | - |  |  | No | - |  |
|  | Texture |  | - | - |  |  | No | - |  |
|  | Body Shape |  | - | - |  |  | No | - |  |
|  | Skeletal Points |  | - | - |  |  | No | - |  |
|  |  |  |  |  |  |  |  |  |  |
| **Location** | Latitude |  | - | - |  |  | No | - |  |
|  | Longitude |  | - | - |  |  | No | - |  |
|  | Altitude |  | - | - |  |  | No | - |  |
|  |  |  |  |  |  |  |  |  |  |
| **Zone** | Zone ID |  | - | - |  |  | No | PK |  |
|  | Location | Combination of Latitude & Longitude | - | - |  |  | No | FK |  |
|  |  |  |  |  |  |  |  |  |  |
| **Maintenance** | Maintenance ID |  | - | - |  |  | No | PK |  |
|  | Timestamp |  | - | - |  |  | No | - |  |
|  | Notes |  | - | - |  |  | No | - |  |
|  |  |  |  |  |  |  |  |  |  |
| **Staff** | Staff ID |  | - | - |  |  | No | PK |  |
|  | Name |  | - | - |  |  | No | - |  |
|  | Phone |  | - | - |  |  | No | - |  |
|  | Address |  | - | - |  |  | No | - |  |
|  |  |  |  |  |  |  |  |  |  |

## Document any significant problem(s)

Due to some restrictions in SQL Server Management Studio some Data Types had to be given Placeholders

## Source

IBM. (2023). *What is data modeling?* IBM - United States. <https://www.ibm.com/topics/data-modeling>

Taylor, D. (2022, August 17). What is data modelling? Types (Conceptual, logical, physical). Guru99. https://www.guru99.com/data-modelling-conceptual-logical.html