DISCON Specialists

EA Enabling Techniques

Data Analysis & Design

Email
info@discon.co.za
Website
www.disconspecialists.com
Phone
(+27) 12 667 5975
LinkedIn
www.linkedin.com/company/discon-specialists

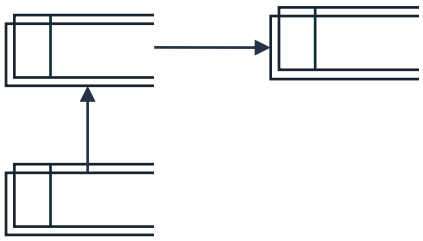
Reason for Existence

A Data Analysis and Design approach to design a physical data model to be implemented.

- Recipe for concept visualisation and physical database development.
- Method for altering a Database Structure in MetaBuilder, without the risk of ruining the production data when changes are made in a database management system (DBMS).
- Provide a methodology based on business priority to develop the physical data model.

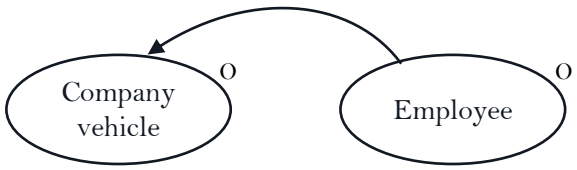
1. High Level SID

Define subsystems or sub processes and develop a high level Subschema Interdependency Diagram (SID).



2. Conceptual EDD

Develop a conceptual model, the Entity Dependency Diagram (EDD), of each of these subsystems to define the content and context of each of these business areas.

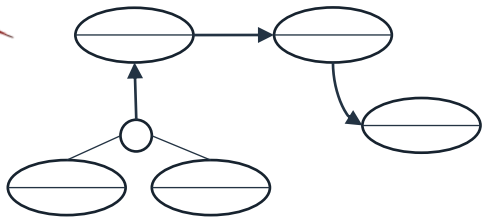


Update SID

Conceptual Model is used to revisit and create the ideal Subschema Interdependency Diagram.

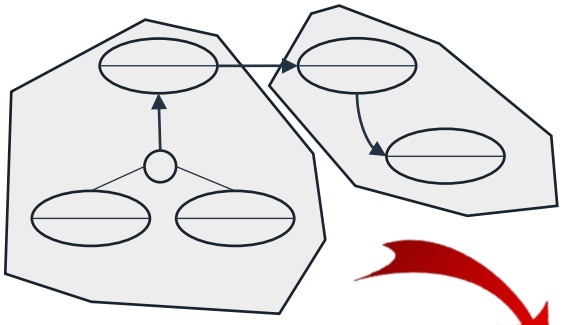
3. Logical ADD

Update SID



4. Apply FEBT on ADD

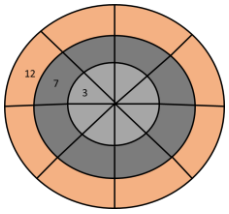
Through applying the Functional Effect Backtracking (FEBT) algorithm to the logical data model, a more accurate SID can be created. Additionally a System Ring Diagram (SRD) can also be created.



Develop the Logical Attribute Dependency Diagram (ADD) by using the ideal conceptual model as an entry point. From an ADD, new business areas or systems can be identified and which will alter the SID. The logical data model also defines the key sets and descriptive attributes for the entities.

5a. Ideal System-interdependency Diagram / System Ring Diagram

1. FEBT Algorithm applied delivers the ideal SID that will depict the architectural priority of the implementation sequence of the different subsystems.



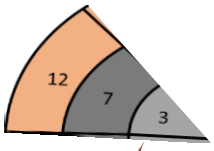
3. Architectural Priorities define that sub-system 3 need to be in place before system 7 can be implemented.

2.Alternatively a System Ring Diagram (SRD) can also be used to depict the architectural priorities.

6a. Business Priority

The Business and Architectural priorities may be contradictory. A strategic sub-system that has to be developed immediately could appear as a sector on the outside of the system ring diagram. Architecturally it implies a number of sub-systems have to be developed before we can develop this particular sub-system, which would ensure that we go out of business due to it's criticality.

7. Accommodate Architectural Priority into Business System Priority

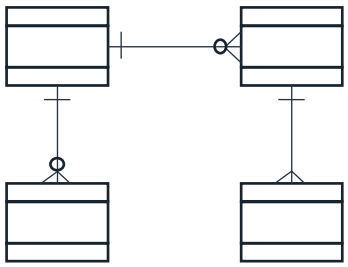


The solution is to accommodate these priorities by means of a pizza slice. The pizza slice identifies the architectural dependencies of the subsystems that form part of the Business Priority.

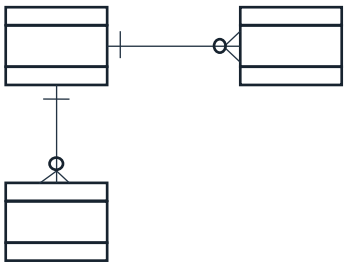
8. Platform Design

5b. Logical Data Structure Diagram

Once the priorities of the subsystems are determined, the synthesis algorithm can be used to create a normalised data model for the ADD. The normalised data model will be on a logical level and is called a Data Structure Diagram (DSD).



9. Physical Data Structure Diagram



When creating the physical data model, the environment or platform that will be used to implement the system on must be taken into account. Different platforms prefer different ways of normalising data.