

Conceptual Database Design 2

Build conceptual data model

- Recall these are the steps involved in building a conceptual data model:
 - Step 1.1 Identify entity types.
 - Step 1.2 Identify relationship types.
 - 1.2.1 Cardinality.
 - 1.2.2 Participation.
 - Step 1.3 Identify and associate attributes with entity or relationship types.
 - Step 1.4 Determine attribute domains.
 - Step 1.5 Determine candidate, primary, and alternate key attributes.
 - Step 1.6 Consider use of enhanced modelling concepts (optional step).
 - Step 1.7 Check model for redundancy.
 - Step 1.8 Validate conceptual model against user transactions.
 - Step 1.9 Review conceptual data model with user.
- We have looked at steps 1.1 – 1.5. We will look at the remainder now.

Topics List

- Consider use of enhanced modelling concepts
- Check model for redundancy
- Validate conceptual model against user transactions
- Review conceptual data model with user

Consider use of enhanced modelling concepts

- Objective is to identify superclass and subclass entity types, where appropriate.
- The modelling of superclasses and subclasses adds more information to the data model, but also adds more complexity as well.
- We will meet superclass and subclass entity types later.

Topics List

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Check model for redundancy

- Examine the ER model and check whether redundancy is found, remove it from the model.
- The three activities in this step are:
 - re-examine one-to-one (1:1) relationships;
 - remove redundant relationship types;
 - consider the time dimension when assessing redundancy.

Topics List

- Consider use of enhanced modelling concepts
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Validate conceptual model against user transactions

- ER model represents the data requirements of the organization.
- Objective is to check that ER model supports the required transactions.
- Two possible approaches:
 - Describing the transaction.
 - Using transaction pathways.

Topics List

- Consider use of enhanced modelling concepts
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Review conceptual data model with user

- Objective is to review the ER model with the user to ensure that the model is a 'true' representation of the data requirements of the organisation (or the part of the organisation) to be supported by the database.