

Module 8 Developing Business Data Models

Lesson 2: Analyzing Narrative Problems



Lesson Objectives

- Explain goals and steps of narrative problem analysis
- Apply steps on a practice problem
- Reflect on limitations of narrative problem analysis





Goals of Narrative Problem Analysis

Consistency

- No conflicts with narrative
- No rewriting of narrative

Identify limitations

- Missing details
- Ambiguity
- Inconsistency

Simplicity

- Prefer simpler designs especially initially
- Suggest refinements





Steps of Narrative Problem Analysis

Identify entity types and attributes

- Important nouns
- Details about nouns
- Preference for a simpler design

Determine primary keys

- Stable
- Single purpose

Connect entity types

- Entity types to connect
- Minimum and maximum cardinalities
- Preference for a simpler design





Problem Narrative Example (I)

Customer

CustNo
CustName
CustAddr
CustType

Meter

MeterNo
MtrAddr
MtrSize
MtrModel

Reading

ReadNo
ReadTime
ReadLevel
EmpNo

Bill

BillNo
BillDate
BillStartDate
BillEndDate
BillDueDate

Rate

RateNo
RateDesc
RateFixedAmt
RateThresh
RateVarAmt





Government Identifiers

- Widely used for tax returns and government benefits
- Avoid for primary keys
 - Privacy concerns
 - Prohibited by organization policies
 - Sometimes violate single-purpose tenet
- May need to store as an attribute for government compliance



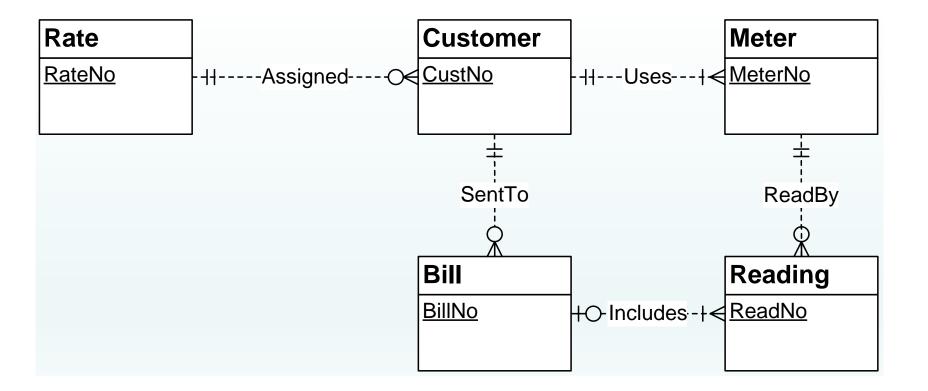


Adding Relationships

- Examine sentences linking nouns representing entity types
- Sentences that involve an entity type having another entity type as a property
- Sentences that involve an entity type having a collection of another entity type



Problem Narrative Example (II)







Relationship Simplification

- Problem statement requires direct or indirect connections
- Hub entity types to simplify
 - Connect other entity types
 - Sometimes associated with important documents
 - Reduce number of direct connections





Summary of Data Modeling Strategies

- Strive for consistency with the narrative
- Preference for simpler designs at least initially
- Use specialized relationships carefully
- Use notation precisely

