Module 3
Data Warehouse Design Practices and Methodologies
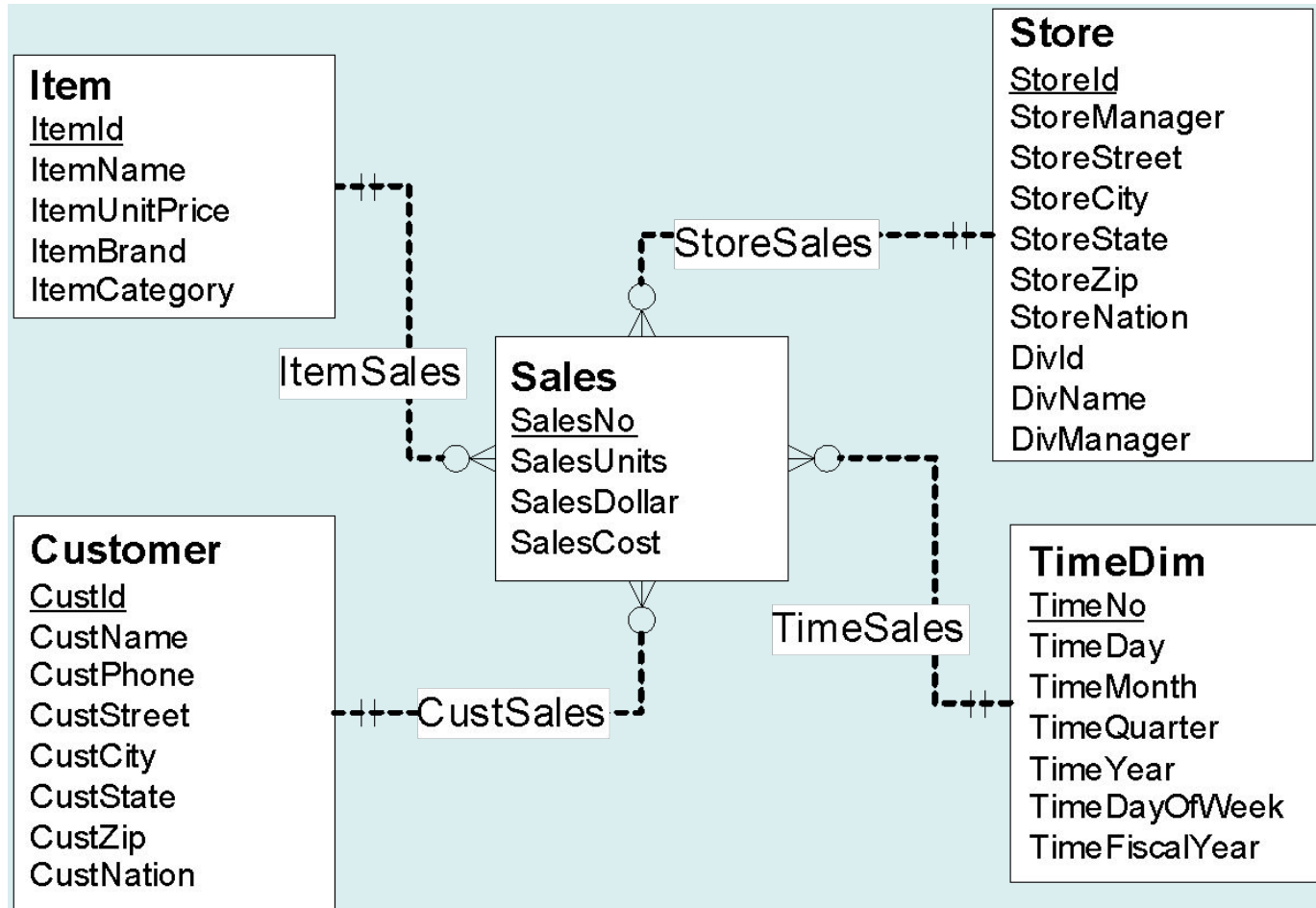
Lesson 2: Table Design Patterns

Lesson Objectives

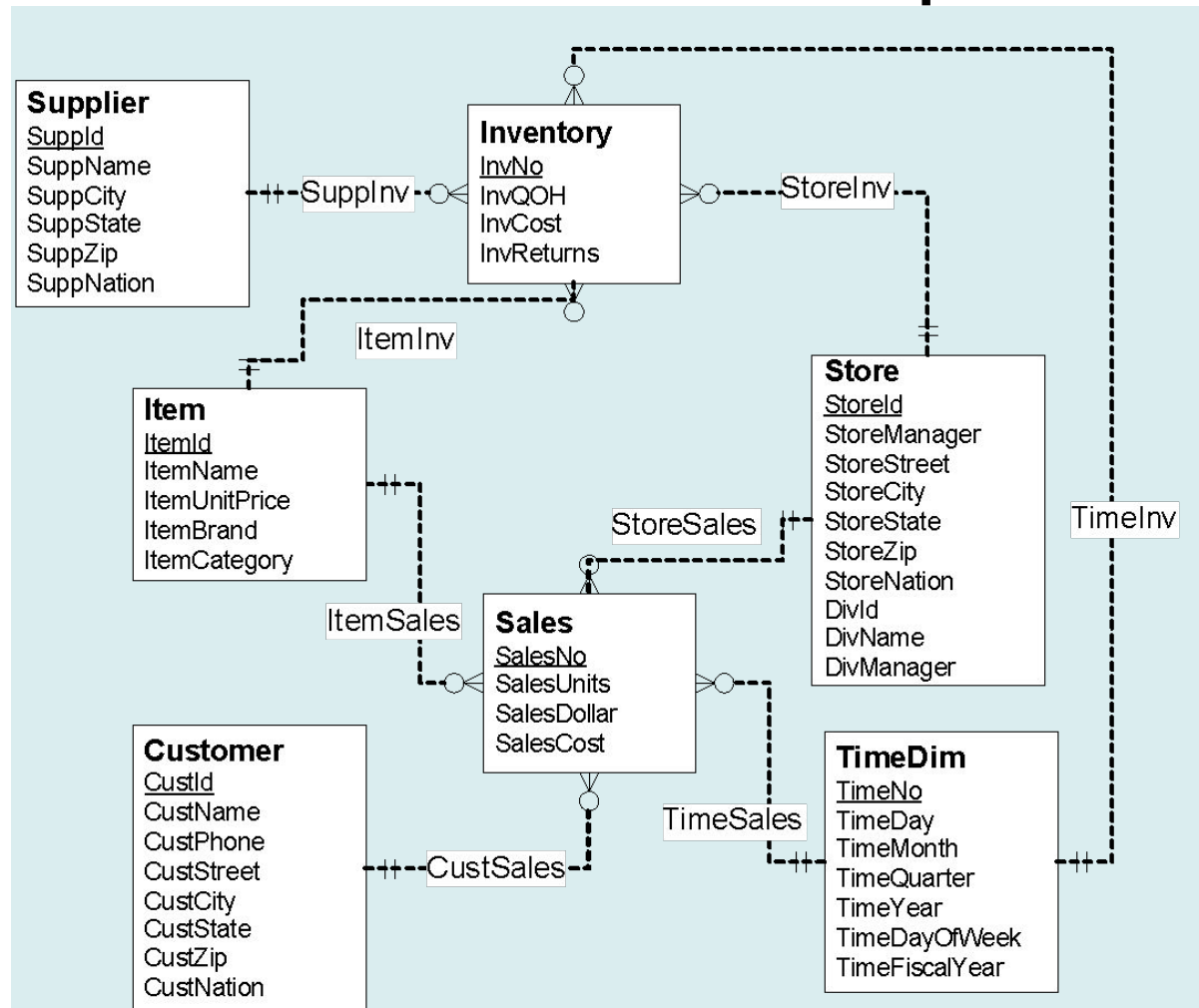- Explain schema patterns
- Explain patterns for historical integrity
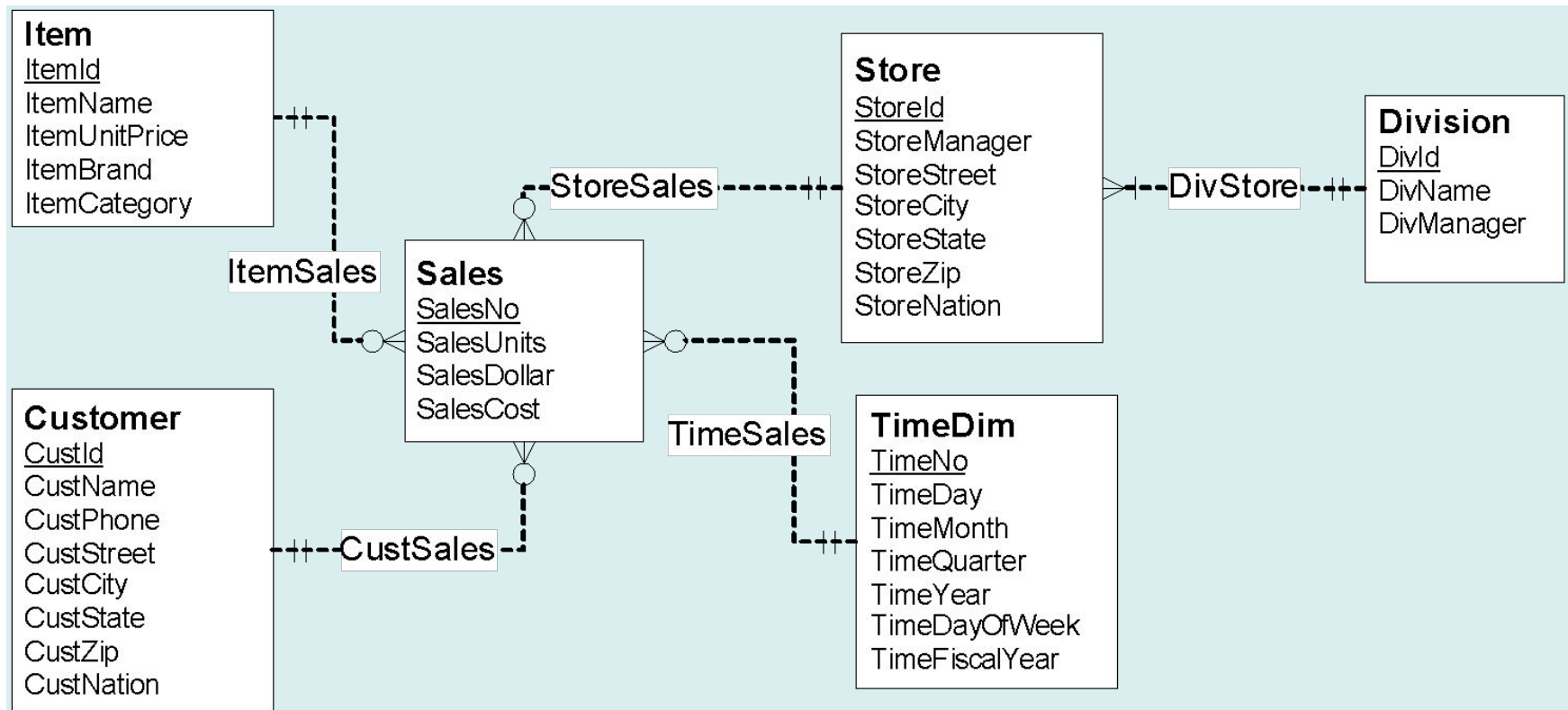- Reflect on the importance of historical integrity

Star Schema Example

Item
ItemId
ItemName
ItemUnitPrice
ItemBrand
ItemCategory

Store
StoreId
StoreManager
StoreStreet
StoreCity
StoreState
StoreZip
StoreNation
DivId
DivName
DivManager

ItemSales

StoreSales

Sales
SalesNo
SalesUnits
SalesDollar
SalesCost

Customer
CustId
CustName
CustPhone
CustStreet
CustCity
CustState
CustZip
CustNation

TimeDim
TimeNo
TimeDay
TimeMonth
TimeQuarter
TimeYear
TimeDayOfWeek
TimeFiscalYear

TimeSales

CustSales

Information Systems Program

Constellation Schema Example

Snowflake Schema Example

Time Representation for Fact Tables

- Alternatives
  - Timestamp
  - Time dimension table for organization specific calendar features

- Variations
  - Time of day columns
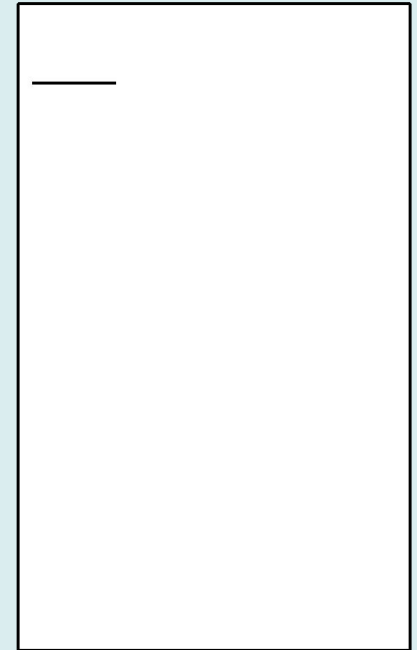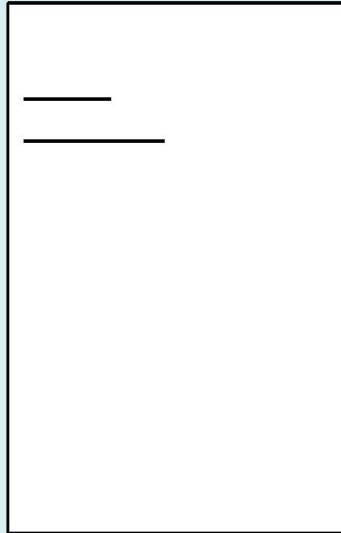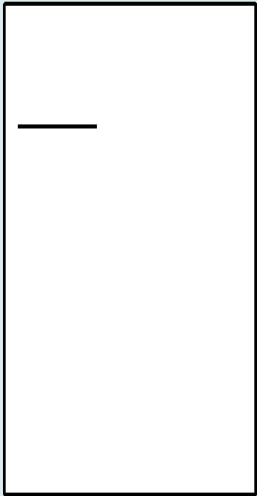 - Accumulating fact table for representation of multiple events

Historical Integrity for Dimensions

- Primarily an issue for dimension changes
- Fact rows no longer historically accurate after a dimension update
- Determine importance of history preservation for dimension columns
- Some inaccuracy tolerated with summary query results

Historical Integrity Examples

Business School
UNIVERSITY OF COLORADO DENVER

Summary

- Schema patterns especially the constellation schema for shared fact tables

- Time representation for fact tables

- Historical integrity for dimensions