Part 1  Data Modeling for Business Intelligence

1.1  Data Modeling Concepts
The Data Modeling Life Cycle
Kinds of Data Systems
Data Taxonomy
Data Modeling Framework for BI
The Data University Case Study

1.2  Logical Data Models
What to Model
Understanding Data Sources
Logical Relational Modeling
Logical Dimensional Modeling
Logical Models and Business Metrics
Logical Models and Business Analytics
Logical Models and Master Data Management
Logical Models and Unstructured Data

1.2  Implementation Data Models
Data Structure in Transaction Systems
Structural Modeling and Data Integration
Structural Modeling and Business Analytics
Physical Design Overview
Some Optimization Techniques
Physical Design and Implementation

Part 2  Dimensional Data Modeling

2.1  Dimensional Modeling Concepts
Dimensional Modeling in Context
Dimensional Modeling Basics
Comparing E-R and Dimensional Models
Concepts Summary

2.2 Requirements Gathering for Dimensional Modeling
Business Context for Data Modeling
Business Questions as Requirements Models
Fact/Qualifier Analysis
Requirements Gathering Summary

2.3 Logical Dimensional Modeling
Star Schema Dimensions
Star Schema Fact Tables
Star Schema Design Challenges
Modeling Process Summary

2.4 From Logical Model to Star Schema
Delivering Business Value
Effective Dimensional Modeling

2.5 Dimensional Data and Business Analytics
Delivering Business Value
Effective Dimensional Modeling

Part 3 Data Modeling in the Age of Big Data

3.1 Big Data Fundamentals
What Is Big Data?
Big Data Opportunities
Technologies
Big Data Challenges

3.2 Data and Models
Models
Modeling for Relational Storage
Modeling for Nonrelational Storage
Complementary Approaches

3.3 Key-Value Stores
Key-Value Stores Defined
Key-Value Data Representation
Use Cases
Examples
Exercise 3 – Key-Value Pairs Modeling

3.4 Document Stores
- Document Stores Defined
- Document Data Representation
- Use Cases
- Examples
- Exercise 4 – Document Modeling

3.5 Graph Databases
- Graph Databases Defined
- Graph Data Representation
- Use Cases
- Examples

3.6 Embracing Big Data
- Big Data in the Enterprise
- Managing Big Data Assets
- Capture Nonrelational Data
- Explore Nonrelational Data
- Archive Nonrelational Data
- Deploy Nonrelational Data
- Augment or Extend with Nonrelational Data
- The Human Side of Big Data
- What’s Next?

Workshop
  o Working with Your People, Projects, Processes and Data
  o Choose from the following list of topics for a tailored workshop
    (It is recommended that you select two topics for approximately 4.5 hours of workshop activity.)
    - Understanding Data Sources
    - Data Warehouse Modeling (relational, not dimensional)
    - Dimensional Data Mart from Requirements to Star Schema
    - Big Data Modeling as Exercises
    - Big Data Modeling as Client Use Case