

Part 1: TDWI Requirements Gathering: Correct and Complete Requirements for BI and Analytics Systems

Module 1: Requirements, Projects, and Lifecycles

Kinds of Requirements

- A Multilevel View of Requirements
- Business Requirements
- Functional Requirements
- Technical Requirements

Project Types

- Three Dimensions

Lifecycles

- Waterfall
- Iterative
- Agile
- DevOps

Requirements Before Design

- Architectural Requirements
- Project Requirements

Module 2: Kinds of BI and Analytics Requirements

The Scope of Requirements

- An Overview
- Business Perspective
- Project Perspective

Classifying Requirements

- Business Capability Requirements
- Business Value Requirements
- Governance Requirements
- Data Management Requirements
- Business Services Requirements
- Business Applications Requirements
- Data Preparation Requirements
- Service-Level Requirements
- Technology Requirements

A Requirements Checklist

- Summary

Scenario

- for Exercises 1 through 4

Exercise One

- Business Capabilities

Module 3: Project Requirements Gathering

Requirements Challenges

- Setting the Scope
- Aligning to the Lifecycle
- Asking the Right Questions

Requirements Questions

- Surveying the Landscape
- Making It Personal
- The Current State - Data and Analysis
- The Current State - Existing Reports
- The Future State

BI and Analytics Products

- Business Capabilities
- BI Product Example

Exercise Two

- BI Products

Iterative BI Requirements Gathering

- Product Components
- From PBS to Specification
- A Functional Checklist
- A Technical Checklist

Exercise Three

- Product Breakdown Structure

Agile BI Requirements Gathering

- Backlog, Stories, and Discussions
- Checklists

Analytics Requirements Gathering

- Modeling Lifecycle (CRISP-DM)
- Requirements Framework

Module 4: Requirements Gathering Techniques

Requirements as a Human Process

- People and Requirements Gathering
- Roles and Skills
- Identifying Stakeholders
- Busy People vs. Involved Participants
- Some of the Challenges

Ten Techniques

- An Overview

- Brainstorming
- Interviewing
- Requirements Workshops
- Group Facilitation
- User Stories and Storyboarding
- Prototyping
- Surveys and Questionnaires
- Observation
- Current State Analysis
- Reverse Engineering
- Summary

Module 5: Requirements Mgmt Techniques

Requirements as a Systems Process

- The "Why" and "What" of Requirements Management

Documenting Requirements

- Specifications
- Models
- Stories

Testing Requirements

- Clarity, Correctness, and Measurability
- Completeness

Exercise Four

- Requirements Specification

Managing Requirements

- Scope, Impact, Feasibility, and Change
- Summary

Module 6: Summary and Conclusion

Summary of Key Points

- A Quick Review

References and Resources

- To Learn More

Close the Class

- Evaluations, Thanks, etc.

Part 2: TDWI Information Dashboard Design: Dashboard Development and Performance Management

Module One: Dashboards: What and Why

Defining Dashboards

- Continuum
- Self-Service Dashboards

- Engineered Dashboards
- Scorecard Definition

Dashboards in Context

- Business Context
- BI and Analytics Context
- Technology

Discussion

- Dashboard Use

Module Two: Dashboard Foundations

Measures and Metrics

- Measurement Concepts – Why Measure?
- Measures, Metrics, Performance Indicators, and KPIs

Implementing Metrics Process Overview

- Useful Metrics
- Definition – Naming and Description
- Definition – Calculation

Metrics Applications

- Business Impact
- Capabilities

Exercise 1

Dashboard Brainstorm

Visualization Foundations

- Choosing the Right Visual
- Example

Module Three: Dashboard Design Techniques

Multiple Paths

- Self-Service Vs. Engineered

Engineered Dashboard Development

- From Planning to Production
- The Design Phases

Dashboard Requirements

- Business Scope
- Stakeholders
- Technical Requirements
- Performance Indicators
- Cascading and Dependency

Dashboard Design

- Design Tips
- Item Placement
- Element Layout

- Filters
- Drill-Down
- Help
- Keep it Simple
- Adapt Charts to Fit Viewers
- Formatting Tables
- Pre-attentive Processing
- Choosing Fonts

Dashboard Examples

- Balancing Sparsity and Density
- A Good Example
- A Bad Example

Exercise 2

Critiquing Dashboards

Self-Service Dashboards

- Process Framework
- Collaboration

Module Four: Performance Management

Defining Performance Management

- Performance + Management
- Why Performance Management?

Performance Management Processes

- Goal Setting and Measurement
- Analysis and Action
- Monitoring and Feedback

The Balanced Scorecard

- PM Foundation
- Variations

Exercise 3

Scorecard Structure

Strategy Mapping

- A Cause-and-Effect View of the Business
- Map Components
- From Balanced Scorecard to Strategy Map
- Leading and Lagging Indicators

Performance Indicators

- From Mapping to Metrics
- From Nodes to Numbers
- Using the Business Model Canvas
- KPI Library
- Choosing KPIs

Business Impact

- Feedback and Evolution

Module Five: Summary and Conclusion

Summary of Key Points

- A Quick Review

References and Resources

- For More Information

Part 3: TDWI Data Visualization Principles and Practices**Module 1 - Data Visualization Concepts**

Data Visualization Today

- Data Visualization Roles
- Data Visualization Uses
- Communicating with Visuals
- Visualization and Stories

Data and Visualization

- Finding the Right Data
- Data Content
- Categorical and Aggregate Data

Data Visualization Components

- The Parts of Data Visuals

Visual Cues

- Placement
- Lines
- Shapes
- Color
- Human Perception

Coordinate Systems

- Cartesian Coordinates
- Polar Coordinates
- Geographic Coordinates

Measurement Scales

- Linear and Logarithmic Scales
- Ratio and Interval Scales
- Ordinal and Nominal Scales
- Percent Scales
- Time Scales

Visual Context

- Explicit and Implicit Context

Module 2 - Fundamentals of Visualization

Data Visualization Methods

- How We Visualize

- Tables
- Plots
- Maps
- Infographics
- Specialty Graphs

Data Visualization Standards

- Good Design
- Chart Anatomy
- Chart Junk
- Color
- Size and Scale
- Integrity
- Two-Dimensional Versus Three-Dimensional
- Data-Ink Ratio
- Data Richness
- Encoding and Cues
- Legibility

Visualization with Purpose

- What Do You Want to Show?
- Comparisons
- Proportions
- Relationships
- Patterns

Data Visualization Development

- Purpose
- Message
- People
- Data Properties
- Questions and Iteration
- Visual Method Choice
- Test

Module 3 – Data Visualization Techniques

Visualization Techniques

- What We Visualize

Visualizing Comparisons

- Comparison Data
- Dimensions
- Outliers
- Visual Data Methods for Comparison
- Examples

Visualizing Proportions

- Proportion Data
- Parts to a Whole
- Proportions over Time
- Visual Methods for Proportions
- Examples

Visualizing Relationships

- Relationship Data
- Correlation
- Distribution
- Spatial Relationships
- Visual Methods for Relationships
- Examples

Visualizing Patterns

- Pattern Data
- Points in Time
- Continuous Data
- Visual Methods for Patterns
- Examples

Module 4 - Visualization and Business Intelligence

Visualization and BI

- Supporting BI

Analytics

- From Exploration to Models
- From Questions to Answers

Visual Reporting

- Dashboards, Scorecards, and Reports
- Promoting Interaction
- Animation

Infographics

- Visual Design plus Graphic Design
- Simple Graphs Versus Infographics
- Design
- Team and Process

Data Storytelling

- Statistics Versus Stories
- Visual with Narrative

Module 5 - Tools and Resources

Data Visualization Tools

- A Technology Overview

Best Practices in Visualization

- Advice from the Master

Workshop

- Working with Your People, Projects, Processes, and Data
- Choose from a provided list of topics for a tailored workshop. Workshop topic selection to be determined during pre-course discussion and planning with instructor. *(It is recommended that you select two topics for approximately 4.5 hours of workshop activity.)*