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### Architecture and Business Change

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### Enterprise Data & Business Intelligence

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**Overview**
Quick and effective business change means that Business Architects must know the interconnections among business elements so that as the business models are updated, they can identify what’s impacted and design with deliberate change in mind. A solid business architecture that assures the avoidance of redundancy, maximizes the sharing of capabilities and makes best use of supporting resources, is essential. With a sound architectural foundation, business-wide transformation, digitalization and continuous optimization can be accomplished and change efforts can progress smoothly. This is a highly participative workshop and will delve into all aspects of Business Architecture, as defined by the Business Architecture Guild’s BIZBOK along with other established and new methods, leaving the participant with the skills required to make Business Architecture disciplined, repeatable and yet practical.

**Learning Objectives**
- Understand what a straightforward and useful Business Architecture looks like
- Learn how to implement the concepts and practices of the BIZBOK
- Understand what outputs the business produces and how it delivers them to create value for its customers and other stakeholders (Business Model)
- Define how the business is organized and how it operates in the context of broader business ecosystems (Operating Model)
- Align what investments in resources the business should make (Resources Model)
- Learn to build information, capability and process architecture models and interconnect them through a business performance lens
- Be able to use the architecture to accelerate change projects and deliver breakthrough digital technologies

**Course Outline**

**Why Business Architecture?**
- Enable Transformation, Disruption and need for Innovation
- Requirement for Business Agility

**Business Architecture and Related Disciplines**
- Zachman, TOGAF
- BIZBOK
- The Business Architecture Landscape

**Workshop: What is your Architecture maturity and readiness?**

**Architecture Scoping and Value Chain Identification**
- What company or one Value Chain?
- Intercompany Value Chains?

**Workshop: What Value Chains do you have and what’s in scope for Business Architecture?**

**Business Strategy Understanding**
- Business Ecosystem Analysis: Uncertainties, Scenarios, Opportunities and Threats
- Stakeholder Context Model: Item exchanges
- Stakeholder Value Proposition: Expectations and Experience Assessment, KPIS and Objectives
- Business Motivation Model: Ends before Means?

**Workshop: Who are your stakeholders and what is of value to them?**

**Framing the Strategy for Business Architecture Consumption**
- Building the North Star: Goals and Objectives
- Establishing Strategic Capabilities and Requirements
- Choosing your Architecture scenario and plan of attack

**Workshop: What are the Critical Capabilities and Requirements for the Business Architecture?**

**Business Object/Concept Modeling: The Basis for Information, Capability and Process Architecture Models**
- Business Objects
- Concept Model
- Business Vocabulary
- Deriving the Information Model

**Workshop: What is your Business Object/Concept Model?**

**Business Capabilities**
- What is a Business Capability?
- BIZBOK view
- Capability Modeling
- Assuring unique non-redundant Capabilities
- The Burlton Capability Hexagon

**Workshop: What are your Business Capabilities?**

**Business Process Architecture: Value Streams: and an End-to-End view**
- Value Streams and Business Processes: BIZBOK view
- Stakeholder Journeys and Lifecycle
- The Skeleton Process Architecture
- Value Streams and Value Stream Stages
- Deriving a value-focused Process Architecture
- Using Business/Industry Frameworks

**Examples of real company Architectures**
- Workshop: What are your Value Streams and End-to-End Processes?

**Alignment to Decisions and Business Rules**
- Policies, Decisions and Business Rules and their architectural alignment
- The Operational Decision Questions Hierarchy

**Workshop: Articulating critical Decisions and Business Rules?**

**Business Performance Models**
- Characteristics of Good Performance Indicators
- The new Balanced Scorecard
- Lagging and Leading Indicators
- Measurement Traceability to Strategic Objectives
- Measuring Operating Processes

**Workshop: What is your Performance Scorecard?**

**Alignment of Business Architecture with IT Enablement**
- Services, Microservices and APIs
- BPMs (process engines)
- BRMS (rules engines)
- Business Activity Monitoring and Analytics(measurement)
- ERP

**Alignment with Human Competencies**
- Competence
- Motivation, Behavior and Culture
- Structural and Cultural Maturity

**Prioritization of Change: Heat Maps**
- Evaluating Process, Information and Capability Value and Performance Gaps
- Heat Map Grids
- Pain – Gain Analysis for assessment of Capabilities, Information and Processes
- The Burlton Capability Framework for Resource Change Planning

**Defining Change Priorities**
- Workshop: What are your Business Process and Capability Priorities?

**Leveraging the Architecture into a Business Change Portfolio**
- Using the Business Architecture Models in Business Change
- Cross Mapping Capabilities and Processes: Impact Analysis
- Defining the Portfolio of Process and Capability Changes
- Scoping a Change Project
- Building the Roadmap

**Workshop: Which Processes and Capabilities are in scope for projects.**

**Sustaining the Architecture through Governance**
- Governance Maturity Checklist
- Architecture Sustainment – CoE Support

**Summary**
- Lessons Learned

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**Presenters**
Roger T Burlton is the co-founder of BPTrends Associates, founder of Process Renewal Group and the author of ‘Business Process Management: Profiting from Process’. He is considered an industry leader in the introduction of innovative approaches for organizational change. To date, he has conducted over seven hundred seminars and has presented to over fifty thousand professionals. His seminars have been translated for diverse audiences around the globe.

Roger B Burlton
Business Architect, Carnival UK Group

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"Great real life experiences that brought the subject to life."
Sheldon Bedwell, Senior Manager Business Architect, Carnival UK Group

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"Brilliant content – took so much away that I will use, very engaging, clear and logical with useful examples. Beyond expectations, the best course I have been on."
Kay Butterworth, Business Architect, Department for Work and Pensions
In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.

Digital Process Analysis and Design:
Optimising the Customer Experience through Digital Innovation
Roger Burlton

Overview
This course will address what degree of process work is required for today’s organizations striving to establish digital business capabilities to optimize the end to end customer journey and leverage resources in the most effective manner. It will emphasize the customer aspects of the challenge given that customers are no longer recipients of what we do but are key actors with us in doing it. They are a part of newly conceived business processes in partnership with us. We have to design shared processes with them in mind. This course deals with the development of digitalized processes and services. It does not address digital strategies or digital architecture directly.

Learning Objectives
• Build a customer journey and find moments of truth
• Segment customer types and define personas
• Understand existing customer bottlenecks and constraints and opportunities to remove them
• Identify potentially useful digital technologies
• Design end to end value stream processes that start and end with the customer process
• Reconceptualise the customer interaction with our processes
• Recognize genuine design constraints from other outside stakeholders
• Deal with behavioral and cultural change
• Define the change program

Course Outline
The Digital Challenge
• Drivers and Trends of Digitalization
• Digital Strategy
• Digital vs Digitalization
• Some definitions and truths
Examples: Uber, AirBnB and other usual suspects

Process Methodology Response
• Traditional approaches
• Process Analysis and Design for the digital world
• The Concept Model as home base
• The Burlton Capability Hexagon
Case study Workshop: Developing your concept model

Understand: Stakeholders, Vision and Scope
• Value Chain and the scope of your included processes
• External Stakeholders classification
• Segmentation and Personalization
• The use of Personas
• Customer needs and value proposition
• Customer experience
• The North Star for your design
Example: Ordering of customized confectionery
Case study Workshop: Analyzing the Stakeholders
Case study Workshop: Defining the North Star

Analysis: Modelling and Analyzing the Process
• How much current analysis and modeling is needed
• Analysis and Modeling options
• Dealing with the data
Case study Workshop: Analysing the current capability

Customer Process Experience Baseline
• A typical Customer Experience pattern
• Finding Moments of Truth
• The Customer Journey map
• Attributes of a great customer experience
Case study Workshop: Developing the Customer Journey

Customer Process Experience Baseline
• A typical Customer Experience pattern
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Case study Workshop: Developing the Customer Journey

Digital Inspirations
• Digital Solution Patterns and Benchmarks
• Omni-Channel characteristics
• Mobile characteristics
• RPA (Robotic Process Automation) characteristics
• AI and Cognitive characteristics
• Automating Decisions and Business Rules
• Additional Technology potential
Example: Mortgage Decisioning Redesign

Design the Process and Capabilities
• Small Change vs Substantive change
• Design principles
• Creative workshops to leverage the inspiration
• The new digital process
• Designing measurement and feedback
• Detailed mapping
• The required capabilities and resources
Example: Justice System peer to peer case resolution
Case study Workshop: Validating with the process scenarios

Culture and Behavioural Change
• Developing the competencies: the core skills needed
• Specifying the group behaviour as a set of requirements
• Overcoming internal stakeholder concerns
• Communication: what to say and when
• Sustaining the journey: measuring, monitoring and coaching
Example: Board of Directors Digitalization

Implementation Options
• Digital Base Capabilities
• The role of IBPMS, Decision and Rules engines
• Standards and Protocols
• Technical Foundation

Audience
• Process Analysts and Designers
• Business Analysts
• Business Leaders
• Agilists
• Business Architects
• Anyone else concerned with designing and sustaining an agile business

This class will be of benefit to professionals and managers of all types involved with designing and developing digitalized business processes.

Special Features
• Modernizes process analysis and design work to optimize digital processes
• Deals with customer-in-command processes and business solutions: Journeys and Experiences
• Minimizes Process Analysis for Digital Process to only enough of what you really need
• Brings a wealth of opportunities for Process Innovation
• Features several examples of digitalized processes
• Involves a series of hands on progressive exercises in designing a digital process solution

Fee: £1,295 + VAT

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Roger T Burlton is the co-founder of BPTrends Associates, founder of Process Renewal Group and the author of ‘Business Process Management: Profiting from Process’. He is considered an industry leader in the introduction of innovative approaches for organizational change. To date, he has conducted over seven hundred seminars and has presented to over fifty thousand professionals. His seminars have been translated for diverse audiences around the globe.
Overview
Delegates to this course will first learn exactly what a “business process” is, and techniques to effectively convey the concept to others. The key factors to consider when working with processes and how to avoid the most common pitfalls are also introduced. On this foundation, the course then shows how to discover and scope a business process, clarify its context, assess it and establish improvement objectives, apply various approaches for modelling it to an appropriate level of detail, re-assess it in light of findings from modelling, and employ a structured approach to designing a new process. A modular, “feature-based” approach to process design is described that delivers significant change in Agile timeframes, often in as little as a few days. Everything is backed up with real-world examples, repeatable guidelines, workshop exercises, and group discussions.

Learning Objectives
- Identify a “true” business process, and specify its boundaries and goals
- Describe the key factors that differentiate process and functional approaches
- Employ a variety of techniques to keep stakeholders involved, and promote “process orientation”
- Establish the scope, issues, and goals for a business process
- Model process workflow at progressive levels of detail using Swimlane Diagrams
- Stop process modeling at the appropriate point, and move on to other techniques or phases
- Conduct a structured assessment of a business process
- Transition to the design of a new process while avoiding common (and serious!) pitfalls
- A translation guide – correcting unclear or misleading step names
- Guidelines for flow – what that arrow really means, common errors, parallels vs. exclusive flows
- Ensuring clarity with parallel vs. collaborative steps
- Additional symbols, keeping it simple, transition to BPMN

Techniques for Facilitating an As-Is workflow Modelling Session
- A reminder – why we really model the as-is process (to enable a holistic, fact-based assessment)
- The basics – participants, resources, and tools
- Facilitated session ground rules – specific for “process” sessions
- How to actually finish a flow diagram – one process, case, scenario, and path at a time
- Recap – the three questions to drive your initial “handoff level” workflow model

Course Outline
Business Processes – What They are and How to Discover Them
- Variations on what is meant by “process”
- Guidelines for well-formed processes and business processes
- Impacts of incorrectly identifying business processes
- Example – using this method in identifying “true” business processes
- Summary – six rules for business processes

Working with Business Processes – Frameworks, Difficulties and Methods
- Two perspectives: functional (skills and resources) and business process (results and value)
- Reconciling the two – philosophies and methods for helping functions and processes get along
- Impact of business processes for application and process architects
- Introduction to process modeling techniques – decomposition, flow, and other techniques
- Progressive detail – working through the scope, concept, and specification levels
- Understanding the six enablers of a business process – a critical framework
- Methodology overview – a three-phase approach to completing a process-oriented project

Discovering your Enterprise’s Business Processes
- Depicting “process areas” with an “overall process map” or “process landscape”
- Using “off the shelf” frameworks
- Contrasting top-down and bottom-up methods for process discovery
- When to use one-on-one interviews, when to use group sessions
- Beginning your analysis by clarifying terminology – a structured approach
- Process patterns and inter-process relationships that will emerge

Case study: hands-on practice with process discovery, team work and group debrief

Framing the Process – Determining Scope, Issues, and Goals
- Separating the “what” from the “who” and “how”
- Defining “what” (the essence) and “who and how” (the current implementation)
- Case study – defining process scope
- Initial assessment of the “as-is” process and goal-setting for the “to-be” process
- Clarifying strategic direction – the “business differentiator”
- Issues and opportunities in applying the differentiator framework to a business process
- Case study – process assessment, goals, and differentiator

Workflow Models – the Essentials
- The philosophy behind workflow models (“swimlane diagrams”) – why we really do it
- The three most common errors in workflow modeling, and three keys to success
- Real examples of effective and ineffective process flow models
- Getting started – three questions to drive your initial swimlane diagram
- The three questions in practice – a real example
- Knowing when to stop – controlling the detail of your models
- Real example – what happens when detail gets out of control
- Three levels of workflow model (“handoff,” “service,” and “task”) with examples and guidelines
- A warning sign that you’ve crossed the line and aren’t modeling workflow anymore
- Making the transition to use cases, procedures, work instructions, and other job aids

Workflow Models – the Finer Points
- Guidelines for actors – who or what can or cannot be an actor on a swimlane diagram
- Special cases – depicting systems or machines, holding areas, and other processes as actors
- Guidelines for steps – naming, multi-actor, and sequential, parallel, and collaborative steps
- A reminder – factors to make the new process sustainable

Presentation: Alec Sharp’s expertise includes business analysis, data modelling, project recovery, facilitation, and, especially, business process change. In addition to his consulting practice, he conducts top-rated workshops and conference presentations on five continents a year. Alec is the author of “Workflow Modeling, second edition” which is widely used as a consulting guide and university test."
Overview
Many organisations radically improve their performance through business process change initiatives, while others fall short. It’s easy to blame failure on technical factors, but they are almost never the primary cause. Experience shows there are three recurring themes in successful initiatives:
- True end-to-end processes were identified, and the right ones were selected for transformation;
- A holistic approach balanced technical factors with human, organisational, and cultural factors;
- That holistic understanding was reflected in an implementable and sustainable process design.

This intensive workshop provides proven, repeatable methods for successful business process change in Agile timeframes, well beyond what is covered in introductory courses. Throughout, the emphasis is on methods that support shared understanding and engagement, leading to buy-in and support for change. Specific techniques for discovering and assessing individual behavior and organisational culture are a centerpiece of this unique workshop. Participants will be well-prepared for the challenges of successful business process change. In fact, many organisations apply techniques learned in this workshop to all of their organisational change initiatives.

Topics will be covered with a discussion of the issue, a review of techniques, guidelines and examples, a brief workshop exercise, and a group solution and debriefing. The emphasis is on maximizing the delivery of content while keeping everyone engaged. Real-life case studies are employed throughout – some participants say the examples of how the techniques are applied in practice is the best part of the workshop.

Learning Objectives
- Understand how to communicate business process concepts with executives, managers, and individual contributors in a way that stimulates interest and builds support for change.
- Learn objective criteria for an end-to-end process, and top-down and bottom-up methods for discovering business processes and rapidly developing a process architecture.
- Learn how to encourage support for business process change at every stage of an initiative, and the critical importance of a "what first, who and how next, only then why" approach.
- Understand a practical and agile business process change methodology incorporating specific techniques for addressing human, organisational, and cultural factors.
- Be able to apply innovative techniques for rapidly building relevant, accessible process models, especially at the scope (context) and conceptual (understanding) levels.
- Become familiar with the techniques for designing a future-state process, and how they are applied in a proven, step-by-step method.

Course Outline
Communicating about “Business Process” with Executives, Managers, and Individual Contributors
- Why senior executives (and everyone else) often misunderstand process
- Five key points to cover in an executive briefing
- Winning over the masses - why people fear “process,” how to get them on board
- Business Process within a framework for Business Analysis

Discovering Processes and Developing a Process Architecture
- “Process” fundamentals, components, conventions, and a process architecture taxonomy
- A bottom-up approach to process discovery
- Using standard frameworks and generic models in top-down approaches
- Exercising caution when using “off-the-shelf” process reference frameworks
- Garden study – a multi-pronged approach to building a process architecture within tight budget and time constraints
- Methods for assessing, prioritizing, and selecting processes for transformation
- Case Study – Using the Process Architecture to assess and support a new initiative

Building Support for Change into Your Business Process Methodology
- Five techniques to avoid
- Seven specific techniques to build support for process change
  - The power of “venting”
  - What first, who and how later – abstraction to the essence
  - How to build a compelling and blame-free Case for Change that answers why?
  - Clarify what you need to be great at – the process’ strategic differentiator
  - Understand enablers – the levers of change, and the ones that matter most
  - Frameworks for assessing culture and beliefs, and their impact on business processes

Process Modelling for People – Methods to Maximise Stakeholder Engagement
- Avoiding the common errors in process modelling / process mapping
- “Scope first, flow later” – how and why to build a "Process Scope Model" and a “Process Summary Chart” before modelling process workflow
- The ‘Augmented Scope Model’ and why it’s often an effective alternative to feature-based modelling (“swimlane diagramming”)
- When and when not to use BPMN, UML, and other technically-oriented approaches
- “Flow first, detail later” - a fast approach to building a first-cut flow model and then refining it
- Progressive detail in flow models, and the role of scenarios and process instance models
- Conventions for comprehension in process model graphics
- When to stop process mapping and shift to other forms

Designing an Implementable and Sustainable Business Process
- Five common difficulties with process design / redesign
- Seven common process problems to look out for
- Using a structured, enabler-based assessment of the as-is process to generate creative ideas for the to-be process
- Uncovering unanticipated consequences – an enabler-based assessment of features
- Establishing the essence (the “what”) of the to-be process before determining "who and how"
- A real-life case study illustrating the methodology
- A checklist for ensuring the process is sustainable

Audience
Anyone involved in Business Process Change and Business Process Management (BPM), especially:
- Business Process Analysts and Designers
- Business Analysts
- BPM professionals
- Business Architects
- Process Architects
- Information Systems Architects

In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.

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- 6+ Delegates - 25%

Only one discount can be applied at any one time

Presenter
Alec Sharp, a senior consultant with Claritas Systems Consulting, has deep expertise in a rare combination of fields – business process analysis and redesign, strategy development, application requirements specification, and data modelling. His 35 years of hands-on consulting experience, practical approaches, and global reputation in model-driven methods have made him a sought-after resource in locations as diverse as Ireland, Illinois, and India. He is also a popular conference speaker, mixing content and insight with irreverence and humor. Among his many top-rated presentations are “The Lost Art of Conceptual Modeling,” “Modelling Failure,” “Getting Traction for ‘Process’ – What the Experts Forget,” and “Mind the Gap! – Integrating Process, Data, and Requirements Modeling.” Alec literally wrote the book on business process improvement, having authored “Workflow Modeling: Tools for Process Improvement and Application Development – second edition.” Popular with process improvement professionals, business analysts, and consultants, it is consistently a top-selling title on business process modelling, and is widely used as an MBA textbook. The completely rewritten second edition was published in 2009, and has a “5 star” Amazon.com rating. Alec was also the sole recipient of DAMA’s 2010 Professional Achievement Award, a global award for contributions to the Data Management field. Alec’s popular workshops on Working With Business Processes, Data Modeling (Introductory and advanced) Requirements Modeling (with Use Cases and Business Services), and Essentials of Facilitation and are conducted at many of the world’s best-known organizations. His classes are practical, energetic, and fun, with a most common participant comment being “best course I’ve ever taken.”
Overview

Requirements is the most crucial part of development. Requirements today is about uncovering the real needs of the problem space, understanding the needs of the people who use your solution, recognising the environment for the solution, then, in a timely manner, delivering requirements that are concise, clear and testable. This workshop, presented by a real business analyst, gives you a thorough and well-established process for uncovering the real requirements, testing them for correctness, and ensuring that all the requirements have been discovered. The process is used with variations by both agile and traditional projects. It starts with the business, for it is only within the business that you discover the real needs. When you know the real needs, it becomes possible to determine what will best serve those needs, and to write the requirements or stories to build the right solution.

Learning Objectives

- Determine the real needs of your stakeholders
- Understand the role of the business analyst in agile projects
- Write agile stories that are more effective and accurate
- Write requirements that are complete, traceable, and testable
- Learn diverse elicitation techniques to uncover the real requirements
- Use the Volere Knowledge Model to ensure you have all the needed information, and nothing that is not needed
- Understand the need for, and how to write, functional and non-functional requirements.
- Precisely define the scope of the problem
- Discover all the stakeholders and keep them involved
- Uncover the essence of the business
- Use prototypes, sketches and storyboards to discover hidden needs
- Use state of the art requirements techniques
- Get the requirements quickly, and incrementally
- Write the right requirements and stories

Course Outline

The Requirements Process

- An overview of the process for gathering and verifying requirements
- A discussion on how this process can fit into your organization
- A demonstration of how requirements fit into agile processes

Project Blast-Off

- Scope, Stakeholder, and Goals; the holy trinity of requirements gathering
- How to define a precise scope for the business area to be studied
- How to "Step Back" for a better look at the business
- How to use stakeholder maps to find all the stakeholders
- How to ensure the project’s goal is measurable and testable

Trawling for Requirements

- How to use business events and business use cases to find the right business
- How to use apprenticeship, workshops and other elicitation techniques
- Use the Brown Cow model to see the work more clearly
- How to be more innovative with requirements

Functional Requirements

- Use case scenarios, and how they are used to find the right product to build
- Determining the system boundary
- How to find the requirements, and write them clearly
- How to write requirements, not solutions
- How to handle requirements for agile projects

Non-functional Requirements

- The importance of non-functional requirements
- Usability, look and feel, performance, security and other non-functional requirements
- How to find the non-functional qualities the product must have

Requirements for Agile Projects

- How requirements work with agile techniques
- Role of the business analyst in agile
- Writing better user stories
- Prototypes and Deviations
- Using sketches and prototypes to drive out requirements
- Low and high-fidelity prototypes
- Exercising alternatives and misuses

Writing Requirements

- Communicating requirements
- Correct formulation of requirements
- How to write fit criteria to make your requirements precise and accurate

The Quality Gateway

- How to test requirements and ensure that they are fit for purpose
- How to prevent scope creep
- How to avoid gold-plated requirements that add little value to the system
- How to ensure the requirement is a complete statement of need

Managing Your Requirements

- Strategies for requirements projects
- Using the Requirements Knowledge Model to manage your requirements

Prioritising requirements

- Dealing with conflicting requirements
- Automated requirements tools

Your Requirements Process

- Making your own process more effective
- Incorporating your organisation’s requirements practices into what you have inherited

Audience

If you want to be involved in delivering the right systems—the ones that get used, then this course is for you. Typical delegates include:

- Business Analyst
- Agile Team Members
- Systems Analyst
- Requirements Manager
- Requirements Engineer
- Project Leader / Manager
- Product or Program manager
- Product Owner
- Consultant

Special Features

- Your instructor is not an "announcer". He or she is a practicing business analyst who also happens to be an excellent instructor.
- The course is written to show real-world situations and provide real-world solutions. You will be able to relate your own work situation to the course.
- You can discuss your own requirements issues with your instructor.
- You learn that requirements come from understanding the business and its internal processes, and how the business interacts with its external customers.
- The course provides a realistic framework for requirements discovery, not a strict methodology. The framework provides the freedom and encouragement to adapt to your own organizational needs.
- The techniques are applicable regardless of your development method – agile, traditional or anything else.
- The Brown Cow model to give you different and beneficial ways to look at the problem.
- The Volere requirements knowledge model which ensures you collect the right information, and the right amount of it.
- You receive the Volere Requirements Specification Template (downloaded over 20,000 times) with advice on how to make this your own template.

In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.
Overview

Solving the right business problem is absolutely crucial for software and product development. Therefore the emphasis of this course is to show you how to work with your customers in a more agile way to ensure that you—and they—discover the right problem. In short, we show you how the business analyst is crucial to good agile development, and how you become a valued member of the agile team.

Learning Objectives

- Understand and solve your customer’s real business problem
- Be more responsive to your customers and their real work
- Discover the capabilities of your customers and design better solutions for them
- Work in an agile and iterative manner with your customers
- Work in synchronisation with the agile development team
- Communicate more precisely with the developers by writing the right stories

Course Outline

agile Business Analysis

- A framework for discovering the customers and their needs
- Finding solutions and evaluating them
- How business analysis integrates with either agile or traditional development

Do You Know What Your Customers Value?

- Identify and prioritise customer segments
- Understand your customer’s real business problem
- Determine the customer’s value proposition
- Work in an agile and iterative manner with your customers

Are You Solving the Right Problem?

- Generate candidate solutions with your customers
- Safe-to-fail probes to prove candidate solutions
- Determine the viability, suitability and the outcome of a solution
- Ensure the candidate solves the right problem
- Prove you are fulfilling the right need

Investigate the Solution Space

- Inspect the necessary business processes and data
- The solution space includes the people, software and devices to meet the need
- Ensure that everybody understands the business environment

Designing the Solution

- Form the business solution to make it usable and convenient
- Fulfil the desired impact of the business solution
- Utilise the behaviour of the target customer segments

Writing the Right Stories

- An approach to writing the right stories
- Address the real customer problems
- Use story maps to give you a more descriptive and usable backlog
- Story maps as the ideal repository for business analysis information
- Managing the stories needed for the development cycles

Jack Be Nimble, Jack Be Quick

- A review of the course
- How business analysis activities are overlapping and iterative
- How business analysis can be done quickly and effectively

Investigate the Solution Space

- Inspect the necessary business processes and data
- The solution space includes the people, software and devices to meet the need

Audience

Business analysis is a skill that should be present in all development efforts, and is usually, but not necessarily, associated with job titles such as:
- Business Analyst
- Product Owner
- Agile Team Member
- Systems Analysts
- Requirements Engineer
- Product or Program Manager
- Business Stakeholders
- Users
- Software Customers
- Testers

Special Features

- Participants receive a copy of Business Analysis Agility – solve the real problem, deliver real value by James Robertson & Suzanne Robertson
- Teaching chapters are reinforced with hands-on workshops
- The course is interactive with lots of opportunity to discuss your issues with the instructor and other participants
- Your instructor has real-world experience and can discuss how you can be most effective doing business analysis in your organisation

Business Analysis Public Courses London

- 19-20 May 2020
  - London
  - Fee: £1,245 + VAT
  - Group Booking & Multiple Seminar Discounts Available

- 23-25 March 2020

- 19-20 March 2020

- 5-6 March 2020

- 15-16 October 2020

Multiple Booking Discount

Attend more than one of our public course and you will be entitled to the following discounts:
- 2nd course 10%
- 3rd course 15%
- 4th course 20%
- 5th+course 25%

Group Booking Discount

- 2-3 Delegates 10%
- 4-5 Delegates 20%
- 6+ Delegates 25%

Only one discount can be applied at any one time

Presenter

James Robertson is a business analyst, problem solver, author, speaker, instructor, designer, and sought-after consultant. His courses on business analysis and requirements are popular in several continents. James’ latest (seven and counting) book, Business Analysis Agility, sets down how business analysts can work in a more agile way, and synchronise his requirements discovery as part of an agile development team. James is a principal of the Atlantic Systems Guild and is an author of the Volere requirements techniques and templates which have been adopted by organisations all over the world as their standard for gathering, discovering, communicating, tracing, and specifying solution needs. Twitter: @ VolereResources

In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.
Pre-Project Problem Analysis: Practical Techniques for Early Business Analysis Engagement

Adrian Reed

Overview

Increasingly, organisations are operating in fast-moving and often volatile business environments. Project teams need to respond quickly to tricky and often ill-defined problem situations, enabling the organisation to adapt and meet the ongoing demands of its customers and environment. In these contexts the pre-project stage is crucial: For our change initiatives to be successful, we need to truly understand the problem we are trying to solve. By understanding the problem we can ensure that any future project activity is built upon a firm foundation, and is heading towards a set of goals that are concise, precise and have been agreed upon. This practical, hands-on workshop, focuses on the problem-solving skills that practitioners need in order to collaboratively explore and describe problems, and to co-create potential options for improvement. These skills are extremely valuable pre-project and early in the project lifecycle, and this course will be of interest to business analysts and other practitioners who help analyse, assess and solve tricky organisational problems.

Learning Objectives

- Understand what pre-project problem analysis is, and its significance in the analysis and project lifecycle
- Understand the importance of stakeholder identification, categorisation and management
- Be able to use a range of problem analysis techniques to understand problem situations
- Be able to define a problem using a ‘problem statement’ and understand how successful outcomes can be articulated with Critical Success Factors and Key Performance Indicators
- Understand what a Business Use Case diagram is and understand its value in articulating scope during pre-project problem analysis
- Use a 1 page ‘Project Concept Summary’ template to bring together a potential project idea onto a page

Course Outline

Introduction

- What is ‘Problem Analysis’?: A brief introduction to the course, and a discussion of why it is important that we analyse the problem before assuming or implementing a solution

Stakeholders in Problem Analysis

- Identifying Stakeholders: Tips for identifying likely stakeholders, along with suggestions of potential ‘generic’ stakeholder types that regularly warrant consideration
- Stakeholder Analysis: Categorisation of stakeholders
- Communication/Engagement Planning: Planning how to liaise with stakeholders in the early stages of problem investigation
- Power & Politics: Discussion of how power & politics can affect problem solving, and how it affects us as practitioners

Understanding the Problem Situation

- Elicitation Techniques: Overview of a range of techniques for eliciting information about a problem situation (Interviews, Workshops, Observation, Document Analysis)
- Categorising Problematic Situations: The difference between a ‘difficulty’ and a ‘mess’
- Problem Analysis Techniques: Practical overview of:
  - 5 Whys
  - Fishbone Diagram
  - Multiple Cause Diagram
  - Causal Loops
- External Environment Analysis: Practical overview of STEEPLE technique for analysing the broader business or organisational context
- Perspectives: The importance of understanding that different stakeholders may perceive the problem situation differently
- Defining the Problem: Overview of a typical ‘Problem Statement’, along with a discussion of pros/cons and when it is most useful
- Defining Success: Critical Success Factors (CSFs), Key Performance Indicators (KPIs), Balanced Business Scorecard

Defining Business Requirement Scope

- Roles & Goals: Defining the ‘roles’ that are involved in the problem space and their (business) goals
- Business Use Case Diagram: Introduction to Business Use Case diagrams as a way of scoping out the high level business requirements on a problem situation/potential project concept
- Requirement Types: Brief discussion of other requirement types that may emerge early in the project lifecycle

Identifying Areas for Change

- Gap Analysis: Comparing the output from the techniques in previous sections to identify areas where change is desirable
- Existing Solution Evaluation: Discussion on approaches for benchmarking/measuring existing solutions to determine where improvement may be needed

Generating Improvement Ideas

- Creative Thinking Techniques: Techniques for generating a range of potential ideas for improvement:
  - Brainstorming
  - Brainstorming Enhancers
- Types of Improvement Approaches: Discussion of the breadth of improvement approaches that are generally available, which is often wider than initially anticipated. Discussion on feasibility: What might stop or inhibit an approach being acceptable

Bringing It All Together

- Project Concept Summary: Overview of a one page ‘project concept summary’ outlining the problem, likely requirement scope, and potential solutions
- Validation: How to ensure the ‘project concept summary’ is validated by key stakeholders
- Next steps: What next after the ‘project concept summary’

Audience

This course is well suited for anyone needing to understand how to undertake problem analysis early in the project lifecycle. It will be of particular interest to BA teams that are looking to ‘left shift’ and seek early engagement. Typical delegates include:

- Business Analysts
- Business Systems Analyst
- Consultants
- Requirements Manager
- Requirements Engineers
- Product Owner

In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.
Overview
Enterprise Architecture is fundamental for enabling an enterprise to assimilate internal and external changes in response to the dynamics and uncertainties of the information age environment. Enterprise architecture not only constitutes a baseline for managing change but also provides the mechanism by which the reality of the enterprise and its systems can be aligned with management intentions. This updated workshop is based on the Zachman Framework V3.0, and incorporates actual modelling practice. The workshop consists of 6-8 hours of guided self-learning through a series of videos and assignments and culminates in a three-day instructor-led workshop. The workshop is based on actual Enterprise experience and is designed to give the participants hands-on experience creating both “Primitive” (architecture) models as well as “Composite” (implementation) models. The workshop prepares delegates for both levels of the Zachman Certified-Enterprise Architect program: Zachman Certified™ – Enterprise Architect Associate (Level 1) and Zachman Certified™ – Enterprise Architect Professional (Level 2). The certification fee both Level 1 & Level 2 are included in the registration fee. The “Zachman Certified – Enterprise Architect” examination is a two hour, online examination that upon passing, results in the award of Enterprise Architect Associate (Level 1) Certification. Delegates will then subsequently be awarded the Enterprise Architect Associate (Level 2) Certification upon submitting a case study. If you want to understand the “Complexity & Contradiction” in Enterprise Architecture and are struggling to manage a non-adaptive enterprise and dysfunctional systems, this will be an essential experience! Learn how an ontology allows you to make use of multiple frameworks (e.g. architecture, sales, software development, innovation, etc.) in an enterprise.

Learning Objectives
• Define the sense of urgency for aggressively pursuing Enterprise Architecture
• Define a comprehensive definition (description) of Enterprise Architecture
• Differentiate between Enterprise Architecture and Systems Implementation
• Differentiate an Ontology from Methodology
• Utilizing Enterprise Architecture for operational decision making
• Identify the elements for creating a strategy for reducing “time-to-market” for systems implementations to virtually zero
• Create a strategy for integration beyond jurisdiction (Interoperability)
• Identify architectural principles for meeting enterprise requirements
• Develop traceability across the artifacts for impact analysis and change management
• Employ primitive problem patterns to address complex issues facing any enterprise.

Course Outline
Setting the Context for Enterprise Architecture (EA)
• The contribution of IT People to an Information Age Enterprise
• Global Environment: Escalating Complexity and Escalating Change
• Applying the Concept of Mass-Customization to the Enterprise
Introduction to Enterprise Architecture (The Zachman Framework V3.0)
The Zachman Framework is perhaps the most referenced in the industry. This session provides participants with a unique opportunity to learn first-hand about its concept and utility, directly from the man who developed it. Discussions include version 3.0 of the framework and its evolution.
• Definition of Enterprise Architecture
• The Zachman Framework – Architecture is Architecture Is Architecture
• Ontologies Versus Methodologies
Workshop: Row 1 Models: Defining enterprise scope and developing the enterprise lexicon
Workshop: Row 2: Defining business concepts and business value
Workshop: Row 3: Developing enterprise logic to support technology and implementation decisions.

Enterprise Engineering
• Models from My Bookshelf – 75 years of experience (Implementation, Composite Models)
• The Elegance of Primitives (Their essential contribution)
• Enterprise Entropy – Removing Internal Cost of Operations
• Enterprise Engineering Design Objectives
• Alignment, Integration, Reusability, Flexibility, Interoperability
• Reducing Cycle Time from Order to Implementations (Mass-Customization)
• Implementation Practicalities
• “Federated Architecture” (Integrating Beyond Jurisdictional Boundaries)
• Migrating from Legacy to Architecture
Workshop: Using Primitives to create horizontal Integration and Vertical Transformation
Case Study: Application Rationalization Using Primitives
Workshop: Identify Framework Cells for Given Enterprise Problem Definitions
Workshop: Using Primitives to solve for enterprise entropy

Audience
• CIOs
• Enterprise Architects
• Chief Architects
• Business Architects
• IT Architects
• Process Architects
• Application Architects
• Solution Architects
• Software Architects
• Technology Architects
• Data Architects
• Business Analysts
• System Analysts
• IT Strategists
• Business Strategists
• Strategic Planners
• Program Managers
• Information Systems Management
• Business Process Managers
• Data, Applications, Technology Management
• Consultants

This course is available as a public course (face to face) or via live streaming.
In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.

Zachman Enterprise Architecture Certification: Modelling Workshop
John Zachman and Cort Coghill

10-12 March 2020, London
28-30 October 2020, London
Fee: £1,995 + VAT
This fee includes Level 1 and Level 2 Certification
Group Booking & Multiple Seminar Discounts Available

Architecture & Business Change
Public Courses, London
Zachman Enterprise Architecture Certification
10-12 March & 28-30 October 2020
Dynamic Strategies for Investing in Change
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Architecting the Digital Business
Platform
8-9 June 2020
BizOps
10-11 June 2020

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4th course 20%
5th course 25%
Group Booking Discount
2-3 Delegates 10%
4-5 Delegates 20%
6+ Delegates 25%
Only one discount can be applied at any one time

Presenters
John Zachman is the originator of the “Framework for Enterprise Architecture” which has received broad acceptance around the world as an integrative framework, or “periodic table” of descriptive representations for Enterprises.

Cort Coghill, is a Director of FEAC Education Operations. He is also one of the very few Zachman Certified – Enterprise Architect Educators (Level 3) in the world, setting Cort apart as one of the foremost experts on the Zachman Framework, in both education and project work.

“Finally it all comes together. Great examples and stories. Continue with passion – it’s really good.”
Willemin van den Brink, Team Manager Enterprise Architecture, APG Asset Management

“Fun, informative and eye-opening. Very educational, friendly and helpful lecturers”
Shraz Adam, Application & Intelligence Architect, Next Group PLC
Overview

Is your organization planning, initiating or undergoing a digital transformation initiative? Then you know how important architecture and technology is to building a sustainable foundation. Yet so much has changed in the past 2 or 3 years that it’s hard to know what that should look like anymore. The environment is now part of a larger business ecosystem. Scale, speed, and scope are greatly expanded. AI and cognitive technologies are everywhere. Business architecture is different. Information and data architecture are different. Application architecture is different. Technology architecture is different. Security architecture is different. And, how they all fit together is different too. This workshop answers two key questions:

1. What does architecture for a digital transformation platform look like?
2. How can you keep up to speed on all the changes that implies?

This workshop briefly explores the requirements for the new digital economy, and then describes the new “Digital Business Platform” necessary to meet those requirements and sustain success. Continuing from there, it lays out the overall architecture needed to create that platform and goes into detail about the new business, information, application, technology, performance, and security architectures that comprise it. A detailed case study is woven throughout the workshop to illustrate the platform, architectural tradeoffs, and a wide variety of work products across all domains. Interactive exercises will give attendees an opportunity to use the new techniques in real time.

Learning Objectives

• How the Digital Economy requires a new platform and architecture
• The overall architecture for the “Digital Business Platform”
• How to use business architecture to evaluate and plan digital transformation opportunities and options and shape the platform requirements
• The new information and data architecture to support an intelligent core and the ‘sense, compute, act’ paradigm and typical usage patterns that drive tradeoffs.
• Performance architecture for providing real time reporting on key enterprise business outcomes
• Application architecture in the era of microservices, containers, APIs, DaaS, FaaS, PaaS.
• Cloud and hybrid technology architectures for a sustainable, scalable, reliable flexible business platform.
• Security architecture to ensure Digital Trust, including Intelligence AI, and SECaaS.

Course Outline

What is Digital Transformation?
• Digital Transformation defined
• Dimensions of transformation
  • Business Model, Operating Model, Information, Technology
The new Digital Business Platform
• Intelligent core, Integration, Development, Engagement
Architecting the new Digital Business Platform
• The new architecture framework
• 5 S’s of architecture transformation
• Sense, Compute, Act: The new paradigm
Value Proposition
• Canvas
• Identifying Customer, Pain and Gain
• Products and Services
• Workshop
Business Models
• Digital Business Models
• Business Model Canvas
• Evaluating Opportunities
• Workshop
Operating Models
• Digital Operating Models
• Operating Model Canvas
Workshop
Business Architecture
• BA overview
• Articulating strategies
• Value Stream workshop
• Capability framework
• Capability workshop
Retail Case Study

Planning strategy to execution
Value based planning
Performance Architecture
• Outcomes, Critical Success Factors, KPIs
• Business Motivation Model
• Performance framework
Information Architecture
• Decision Centric Computing
• Cognitive approaches
• AI, ML, DL
• Intelligent Automation Workshop
• Data lakes
• Data patterns
Application Architecture
• Microservices, services, and APIs
• CaaS, FaaS
• PaaS
• DevOps
• Rationalization and Technical Debt
Technology Architecture
• Hybrid solutions
• Cloud transition strategies
• Integration
• Edge
Security Architecture
• State of cybersecurity
• Four disciplines of security management
• Security economics
• Digital trust
• GDPR
• Blockchain

Conclusion

Audience

Attendees should have an understanding of Enterprise Architecture and a familiarity with a variety of architectural model and deliverables. Typical delegates include:

• Enterprise Architects
• Business Architects
• Information Architects
• IT Architects
• Application Architects

In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.
Overview
Is your organization planning to, or already underway with Agile development and/or DevOps? Does it seem like an excuse not to do architecture, analysis or design? At a project level, you’re building things faster, but at an enterprise level, you don’t know if you’re building the right things, or instead, just going faster at creating redundancy and inconsistency. While speed is important, it is the right things at the right speed – the “speed of business change” – that is critical to success in the new digital economy. And, while DevOps is a critical component of any business or digital transformation initiative, it is not incompatible with, in fact it is better with, architecture and design.

BizOps extends the continuous feedback, faster cycle time, and tighter integration atmosphere, mindset, and process of Lean, Agile, and DevOps, “development-to-operations” upstream to include “business-to-development-to-operations” creating alignment with strategy while ensuring flexibility and agility. This includes a business driven “intentional architecture” and common vision that enable innovation, rapid change and emergent business design.

This workshop will mix presentations and simulation planning exercises to answer three key questions:
1. How does BizOps improve delivery and speed of business change?
2. How can you successfully integrate business and enterprise architecture into your DevOps and Agile environments?
3. How do architecture, analysis, design, and development activities change to take advantage of the best of both worlds?

Learning Objectives
- What is BizOps
- How to scale DevOps
- What are the core principles of Agile and Lean that must be scaled
- How architecture and Agile practices complement each other
- How to create an “intentional architecture” using DevOps
- How to extend DevOps to BizOps using business architecture and analysis
- How to fit architecture and analysis into a CD/CI and test-driven environment
- The new role of architects and business analysts

Course Outline
What are BizOps and DevOps?
Agile and Lean Principles
- Shorter cycles, continuous feedback, smaller batches, lower transaction cost, faster cycle time, test driven, lighter integration...

Scaled Agile Approaches
- SAFe
- Scaled Agile

Architecture, Analysis and Design in the world of DevOps
- Opportunities
- Benefits
- Challenges

Business Architect and Analysis helps Agile Scale
- Extending SAFe roles
- Business architecture and the portfolio Kanban
- Value Streams influence backlogs and priorities
- Business Capabilities influence Features
- Intentional architecture and Enablers
- Portfolio concerns

Workshop Part I: Architecture and Analysis at the Portfolio Level

Creating an ‘Intentional Architecture’
- Architectural enablers
- Shared vision
- Individual responsibility
- Clarity and competence

Workshop Part II: Architecture and Analysis at the Program Level

Fitting Architecture into Scrum
- Creating ‘enabling’ stories
- Managing the backlog
- Defining ‘done’
- Daily standup
- Test-driven architecture

Workshop Part III: Architecture and Analysis at the Team Level

Architecture and Testing
- Test-driven development
- Automated testing
- Continuous Integration

Getting Architects and Analysts to ‘Think Agile’
New Roles and Responsibilities
- Architects
- Analysts
- Agile / DevOps leaders
- Developers

Conclusion

Audience
Audience Skill Addressed: All levels. Attendees will gain an understanding of how all the different techniques fit together. Attendees with exposure to Agile and DevOps will be able to quickly apply the learnings to their organizations.

- Enterprise Architects
- Business Architects
- IT Architects
- Application Architects
- IT Managers
- Agile Leaders and Developers
- Business Analysts
- Participants in DevOps

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- 5th+ course 25%

Group Booking Discount
- 2-3 Delegates 10%
- 4-5 Delegates 20%
- 6+ Delegates 25%
Only one discount can be applied at any one time

Presenters
Mike Rosen is Chief Scientist at Wilton Consulting Group providing advice to CIOs, IT Leaders, and Architects on creating the new Digital Business Platform, using architecture as a tool for digital transformation and improved decision making, and aligning architecture with Agile practices. He is also a Founding Member and VP of the Business Architecture Guild, a Certified Business Architect, certified enterprise architect, and Certified Scaled Agilist. Mr. Rosen has more than 35 years of technical leadership experience architecting, designing, and developing solutions, applications, and products. He was previously CTO at startup AZORA Technologies and chief architect, product architect, technical leader, and developer for commercial middleware products from IONA, BEA and Digital. Mr. Rosen is a well-known international speaker and author of 3 books and hundreds of articles.
Overview

Old masterpieces, such as BI and DW, are the foundation for a digital business but only table stakes for survival. Data lakes, predictive analytics, social media, and the Internet of Things are but stepping stones to the digital future; as they stand, they won’t guarantee a thriving transformation. We need a new IT architecture that re-integrates all decision making and action taking across all the people, processes, and information of the coming digital era. An architecture that incorporates all the technological advances in databases, NoSQL stores, data integration and delivery, as well as the old challenges of operational BI, spreadsheets, metadata, virtualisation, collaboration, and more. That provides a comprehensive structure for information and process integration—with speed and consistency—across the entire enterprise. Built on modern tools and techniques, from object stores to cognitive computing, from algorithms to neuroscience, from on-premises to hybrid cloud. Building on thirty years of data warehousing experience and expanding from his comprehensive and well-respected “Business Intelligence Architecture to include a host of emerging topics, from smart things to neural networks, Dr. Barry Devlin charts a creative, but realistic path from data warehouses and lakes, BI and analytics, to show how to design and build a digital business from the existing systems running your enterprise today. With the clear and enormous impact of digital transformation, now is the time to start building the digital business, organisation and infrastructure in architecture, technology and planning to build out your BI environment with AI and other emerging techniques to create a successful digital business.

Learning Objectives

- The meaning and implications of digital business
- Drivers, structure and components of digital business architecture including:
  - The Business intelligence conceptual and logical architectures
  - Data and information—the foundation for everything
  - Formal and informal business processes—getting from information to action
  - Data collection, preparation, integration, and use in a digital business
  - Business context and meaning in information use
  - People—action oriented decision making and engaging innovation
  - Technological foundations of information processing, traditional and emerging
  - Database and data management technologies
  - Data virtualisation and preparation tools for integration across warehouses and lakes
- BI tools, analytics and algorithms in support of decision making and action taking
- A dive into artificial intelligence and cognitive computing:
  - A brief history and explanation of AI evolution, key concepts, and terminology
  - Understanding how IoT and social media enable AI as the new driver of business value
  - Approaches to applying AI to decisions and actions:
    - Augmentation vs. automation
    - Technology needed to build business applications and manage an ever-present data for AI
  - Planning and implementation—practical steps for building a digital business
  - Ethical, economic, and social considerations for your business and society

Course Outline

Digital Business—History and Emergence
- A brief history of decision-making support—from BI to AI
- Origins and meaning of digital business
- Rationalises pro and con digital business

The Why and How of a New Architecture
- The emergence and impact of big data, the Internet of Things and artificial intelligence
- A new, future-proof hypothesis for a new architecture
- A new approach beyond layering—Information, Process, and People
- The pillars of a new architecture that supports multiple storage technologies

The Information Resource—the Foundation for Everything
- New classes of information and data—human-sourced and machine-generated—and how they interact with the traditional process-mediated data stores of the business
- Big data and data lakes—hyperl, and reality, sources and types, business and IT implications
- Key considerations—timeliness, consistency, structure, context, and reliance/usage
- New conceptual and logical architectures for all information and data
- Metadata as information—sources and stores, tools and techniques, data modelling
- Relational database evolution—structures, software and hardware
- NoSQL and NewSQL data stores, object stores, and more
- What’s happening to Hadoop?

Artificial Intelligence—History and Foundations
- A brief history and directions of AI
- Overview of artificial neural networks and other techniques
- Directions for development and use

The Processes—Getting from Data/Information to Decisions and Actions
- Data preparation, ETL, data warehouse automation, wrangling, and data virtualisation
- The new role of users in “application development”
- Understanding adaptive, closed-loop business processes
- People—action-oriented decision making and engaging innovation
- A model for decision making and action taking—The adaptive decision loop
- How pervasive mobile connectivity, processing and storage combine with the Cloud to reinvent business processes

Managing and Governing Data in an AI-Flavoured World
- Data sources for AI use
- Data information preparation and governance from external sources
- Conflicting and overlapping data, erroneous data
- The role and importance of context in gathering, preparing and using data for AI
- Governance, privacy and other ethical issues
- From exploration to production across data lakes, warehouses and operational systems

The People—Understanding Needs and Engaging Innovation
- Motivation and the workings of the human mind in business systems
- Classes of BI—information-centric, process-centric and data-centric
- BI, analytic and other decision support tools
- Decision-making and action-taking in a closed-loop, real-time environment
- Beyond rational choice theory and the role of emotions and social behaviour in decisions

Applying AI to Decision Making
- AI in information use and decision making / action taking
- Operational, tactical and strategic decision-making considerations
- Automation vs. augmentation—the importance of understanding the difference
- Centralisation vs distributed processing
- Model management

Planning and Implementation
- Evolution—not revolution
- The Staged Implementation Roadmap
- Organisational considerations; changes in IT culture and responsibilities
- Selected possible first migration steps

Building the Digital Business—Overarching Considerations
- Ethical considerations for data-based analytics and AI in business
- The role and importance of context across data lakes, warehouses and operational systems
- The impact of AI on the economy and employment
- Avoiding societal breakdown

Audience
- Enterprise, Systems, Solutions and Data Warehouse Architects
- Systems, Strategy and BI/Analytics Managers
- Data Warehouse/Lake and Systems Designers and Developers
- Data and Database Administrators
- Tech-savvy Business Analysts
Unified Data Delivery – From Data Lake to Enterprise Data Marketplace

Mike Ferguson

Overview
This course looks at the challenges faced by companies trying to deal with an exploding number of data sources, collecting data in multiple data stores (cloud and on-premises), multiple analytical systems and at the requirements to be able to define, govern, manage, unify and analyse trusted and trusted quality data products.

It also explores a new approach to organising your data in a logical data lake and how it data architects, business users and IT developers can work together to build ready-made trusted data products that can be published in a data marketplace available to others to consume and use to drive value.

This new Data Lake approach to data integration, tagging and publishing data is in an Information Catalog. It also involves refining raw data to produce trusted 'data products' available as a service that can be published in a data marketplace (catalog) available for consumption across your company.

Learning Objectives
• How to define a strategy for producing trusted data as-a-service in a distributed environment of multiple data stores and data sources.
• How to organise data in a centralised or distributed data environment to overcome complexity and chaos.
• How to design, build, manage and operate a logical or centralised data lake within their organisation.
• The critical importance of an Information Catalog in understanding what data is available as a service.

Course Outline
Establishing a Data Strategy for Rapid Unification of Trusted Data Assets
• The ever-increasing distributed data landscape.
• The closed approach to managing and governing data.
• Formalisation, self-service data preparation or both? – data governance or data chaos?
• Key requirements for data management.
• Dealing with new data sources – cloud data, sensor data, social media data, smart parking meters, internet of things data.
• Understanding scope of your data lake.
• Building a business case for distributed data management.
• Defining an enterprise data strategy.
• A new collaborative approach to governing, managing and curating data.
• Introducing the data lake and data refinery. Data Lake configurations – what are the options?
• Establishing a multi-purpose data lake and Information Supply Chain to produce data products for the enterprise.
• DataOps – a component-based approach to curating trusted data products.
• The need for a common vocabulary of an information catalog and its role as a data marketplace.
• Key technology components in a data lake and Information Sharing Environment – including data fabric software.
• Understanding Hadoop or Hadoop as a data staging area and why it is not enough.
• Implementation run-time options – tools and technologies to curate data in multiple environments.
• Integrating a data lake into your enterprise analytical architecture.

Information Production Methodologies
• Information production and information consumption.
• A best practice step-by-step methodology for structured data governance.
• Why the methodology has to change for semi-structured and unstructured data.
• Methodologies for structured Vs multi-structured data.

Data Standardisation, the Business Glossary and the Information Catalog
• Semantic data standardisation using a shared business vocabulary within an information catalog.
• The role of a common vocabulary in MDM, RGD, SOA, OW and data virtualisation.
• Common vocabulary relevant in a data lake, data marketplace and a Logical Data Lake.
• Approaches to creating a common vocabulary.
• Business glossary products storing common business definitions.
• Altexsys Connect Glossary, ASC, Collibra, Indexora, IBM Information Governance Catalog, Microsoft Azure Data Catalog, Business Glossary, SAP Information Steward Metaplace, SAS Business Data Network and more.

Business Data Analysts doing self-auditing.
• Planning for a business glossary.
• Organising data definitions in a business vocabulary.
• Key roles and responsibilities – getting the operating model right to create and manage the business glossary.
• Formalising governance of business data names, e.g. the dispute resolution process.
• Business performance in SBV creation.
• Beyond structured data – from business governance to information governance.
• What is an Information Catalog?
• Why are information catalogs becoming critical to data management.
• Information catalog technologies.
• Information catalog capabilities.

Organising and Operating the Data Lake
• Organising data in a centralised or logical data lake.
• Creating zones to manage data.
• New requirements for managing data in a logical data lake.
• Creating collaborative data lake projects.
• Hadoop or cloud storage as a staging area for enterprise-data cleaning, integration, and data ingestion.
• Core processes in a data lake operational data and data ingestion process.
• Tools and techniques for data ingestion.
• Implementing automated disparate data and business relationships discovery using Information catalog software.
• Using domains and machine learning to automate the speed up data discovery and tagging.
• Altiplano catalog – Altiplano, IBM Watson Knowledge Catalog, Informatica CLAIRE, Silwood, Waterline Data Smart Data Catalog.
• Automated profiling, PII de-detection, tagging and cataloguing.
• Automated data mapping and lineage discovery.
• The effect ofance classification and policy definition processes.
• Manual and automated data governance classification to enable governance.
• Using tag-based policies to govern data.
• The Data Refinery Process.
• What is a data refinery?
• Key requirements for refining data.
• The need for multiple execution engines to run in multiple environments.
• Options for refining data – ETL versus self-service data preparation.
• Key approaches to scalable ETL data preparation using Apache Spark.
• Self-service data preparation tools for Spark and Hadoop, e.g. Altexsys Designer, Informatica Information Catalog, Microsoft Data Lake, IBM Refinery Pasetta, Tableau Prep, Talend, Trifacta.
• Automated data profiling using analytics in data preparation tools.
• Executing data refinery jobs in a logical data lake using Apache Beam and run anywhere.
• Approaches to integrating IT ETL and self-service data preparation tools.
• ODPM Egeria for metadata management.
• Joined up analytical processing from ETL to analytical pipelines.
• Publishing data and data integration jobs to the information catalog.
• Mapping produced data products into your business vocabulary.
• Data provisioning – publishing trusted ready-made data products in an Enterprise Data Marketplace.
• The Enterprise Data Marketplace – enabling information consumers to shop for data.
• Provisioning trusted data using data visualization, a logical data warehouse and on-demand information services.
• Consistent data management across cloud and on-premises.

Unifying Big Data, Master Data and Data Warehouse Data to Drive Business Value
• A walk through of end-to-end data lake operation to create a Single Customer View.
• Types of big data & small data needed for single customer view and the challenge of bringing it together.
• Connecting to Big Data sources, e.g. web logs, clickstream, sensor data, unstructured and semi-structured content.
• Indexing and analysing clickstream data.
• The challenge of capturing external customer data from social networks.
• Dealing with unstructured data quality in a Big Data environment.
• Using graph analytics to identify new relationships.
• The need to combine big data, master data and data in your data warehouse.
• Matching big data with customer master data and data.
• Governing data in a Data Science environment.

Information Audit & Security – Governing Data Across a Distributed Data Landscape
• What is Data Audit and Security and what is involved in managing it?
• Status check – Where are we in data audit, access security and protection today?
• What are the requirements for enterprise data audit, access security and protection?
• What needs to be considered when dealing with the data audit and security challenge?
• Automatic data discovery and the information catalog – a huge help in identifying sensitive data.
• What about privileged users?
• Using a data management platform and information catalog to govern data across multiple data stores.
• Securing and protecting data using tag-based policies in an information catalog.
• What technologies are available to protect data and govern it?
• Apaches Knox, Cloudera Sentry, Dataguard, IBM, Informatica SecurityGate, Teradata’s Privilege Focus, Privitar.
• Can these technologies help in GDPR?
• How do they integrate with Data Governance programs?
• How to get started in securing, auditing and protecting your data.

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Presenter
An analyst and consultant, Mike Ferguson specialises in business intelligence/analytics, data management, big data and enterprise architecture. With over 35 years of IT experience, Mike has consulted for dozens of companies on business intelligence strategy, technology selection, enterprise architecture, and data management. He has spoken at events all over the world and written numerous articles.

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Information Management Fundamentals
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Chris Bradley

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Overview
This course provides a solid foundation of the different information disciplines across the complete Information Management spectrum. By attending the course, delegates will get a firm grounding of the core Information Management concepts and illustrate their practical application with real examples of how they are applied. Additionally, this course highlights the key curriculum items for students wishing to take the Industry professional certification the DAMA Certified Data Management Professional (CDMP). At the end of day 3 of the course, students will optionally have the opportunity to take the CDMP examination. Full details of the CDMP examinations, levels and costs are available at https://cdmp.info/.

Learning Objectives
Level set understanding & terminology:
- Learn about the need for and the application of Information Management disciplines for different categories of challenges
- Explore an Information Management framework and understand how it aligns with other architecture frameworks
- Explore concepts such as lifecycle management, normalisation, dimensional modelling and data virtualisation and appreciate why they are important
- Understand the difference between Master Data Management and Data Governance and how to effectively apply them

Pragmatic Learning:
- Learn the different MDM architectures, their suitability for different needs and how best to implement Master Data Management approaches
- Understand the different facets (dimensions) of Data Quality and explore a workable Data Quality framework;
- Discover the major considerations for successful Data Governance and how it can be introduced in bite-sized pieces;
- Develop a set of usable techniques that can be applied to a range of information management challenges
- Learn the best practices for managing Enterprise Information needs
- Through practical examples, learn how to apply techniques in information architecture planning

Course Outline
Introduction to Data Management, DMBoK & overview of the CDMP certification
- What is Data Management, the drivers if it goes wrong
- What is the DMBoK, its intended purpose and audience of the DMBoK
- What are the disciplines of Data Management in the DMBoK
- Overview of the DAMA CDMP professional certification, what are the levels and how can you progress from one level to the next.

Data Governance
- What is Data Governance, Why Data Governance is at the heart of successful Information Management.
- A typical Data Governance reference model.
- Data Governance roles & responsibilities.
- Organisation structures & type of Operating models to support Data Governance.
- Private Data Governance
- The role of the Data Governance Office (DGO) & its relationship with the PMO.
- Introduction to the CDMP & overview of the CDMP.

Data Quality Management
- What is Data Quality, and why "Validity" is often confused with "Quality"
- The different dimensions of Data Quality.
- The policies, procedures, metrics, technology and resources for ensuring Data Quality is measured and ultimately continually improved.
- A Data Quality reference model & how to apply it.
- Root cause analysis & 5-whys
- Capabilities & functionality of tools to support Data Quality management.
- Data Quality measures – guidelines for their creation & monitoring.

Master & Reference Data Management
- The differences between Reference & Master Data.
- Identification and management of Master Data across the enterprise.
- 4 general Master Data Management architectures & their suitability in different cases.
- The different genres of Master Data Management solutions & pitfalls to avoid.
- Different approaches for Master Data Management implementation.
- The essential relationship between Master Data Management, Data Quality, and Data Governance.
- The under looked but critical aspect of Reference Data Management

Data Warehousing & BI Management
- What is a Data Warehouse & why they are used.
- Provision of Business Intelligence (BI) to the enterprise and the way data consumed by BI solutions and the resulting reports are managed.
- Particularly important if the data is replicated into a Data Warehouse.
- Proactive intervention is needed.
- What is the DMBoK, and why is it important?
- Introduction to Dimensional Data Modelling
- Overview of slowly changing dimensions and why they are required

Data Modelling
- What are Data Models & why do we need them.
- What are the different types of Data models, and their use and how they interrelate.
- The development, and exploitation of data models, ranging from Enterprise, through Conceptual to Logical, Physical and Dimensional.
- Data modelling & Big Data - why data modelling is NOT just about Relational Database design
- The use of data models in Data Governance, and Data Quality Management.

Metadata Management
- What is (and isn’t) Metadata
- The provision of metadata repositories and the means of providing business user access and glossaries from these.
- Different types of Metadata & their uses
- Where is metadata found – the different stages of their creation.
- What metadata do we need to manage
- Metadata & Business Glossaries. What’s the connection.

Data Integration & Interoperability
- Data Integration & Data Interoperability – What’s the difference?
- What are the business (and technology) issues that Data Integration is seeking to address?
- The different styles of Data Integration & Interoperability, their applicability and implications.
- The approaches, plans, considerations and guidelines for provision of Data Integration and access.

Data Architecture & Data Lifecycle Management
- Types of Enterprise architectures
- Proactive planning for the management of Data across its entire lifecycle from inception through acquisition, provisioning, exploitation eventually to destruction.
- Considerations for Data across the value chain.
- Differences between Data Life cycle & a Systems Development LifeCycle (SDLC).

Data Risk Management, Security, Privacy & Regulatory compliance
- Identification of threats and the adoption of defences to prevent unauthorized access, use or loss of data and particularly abuse of personal data.
- Exploration of threat categories, defence mechanisms & approaches, and implications of security & privacy breaches.

Data Operations Management
- Core roles & considerations for data operations
- Obstacles to performance
- Good Data Operations practices

Records & Content Management
- Why document & records management is important
- The records management lifecycle

Presenter
Chris Bradley has spent 37 years in the forefront of the Information Management field, working for International organisations in Information Management Strategy, Data Governance, Data Quality, Information Assurance, Master Data Management, Metadata Management, Data Warehouse and Business Intelligence. Chris is Director of the ELP standards committees ‘DMBoard’, an author of several books including ‘Data Modelling for the Business’ and ‘DMBoK 2.0’, a fellow of the Meta Data Professionals Organisation (MPO) a Fellow of BCS and DAMA CDMP recipient of the DAMA Lifetime Achievement Award for Data Management Excellence, and author of significant parts of professional certifications. Chris is an acknowledged thought leader in Data Modelling and Data Governance, author of several papers and books including “Data Modelling for the Business”.

Great breath and depth! Great breath of knowledge and experience. Will recommend to my colleagues. The course has exceeded my expectations.”

Nadia Batosko, Data Governance Consultant, Royal London Group

Audience
- Business Intelligence & Data Warehouse Developers & Architects
- Data Architects / Analysts
- Data Governance Managers
- Data Quality Managers
- Information Quality Practitioners
- Enterprise / Solution / Application / Information Architects
- Business Analysts
- Data Modellers
- Developers
- Project / Programme Managers
- IT Consultants

In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.
Overview

With data being at the forefront of all business, the need for organisations to produce a wide-ranging Data Strategy is greater than ever. With both the increase in data regulations and the focus on data-driven business outcomes, yet, creating an enterprise-wide data strategy and the governance to support it can be a formidable task. Often, it is difficult to know where to begin, and how best to prioritise efforts due to the large number of stakeholders and many competing initiatives. Data is at the heart of all organisations, almost like blood flowing through its arteries and veins. However, too often Information is not professionally managed with the rigour and discipline that it demands. Nonetheless the implications of poorly managed information can be catastrophic, from legal and other regulatory sanctions ultimately to business collapse. Professor Joe Peppard (European School of Management, Cranfield) summed it up when he said: “The very existence of an organisation can be threatened by poor data.” This 2-day course will provide concrete practical approaches to get you started on your Data Strategy, the typical contents of a Data Strategy, and the ways in which your supporting Data Governance framework can be organised.

Learning Objectives

Level set understanding & terminology:

• Understand the key concepts that comprise a Data Strategy.

• Learn how to create a case for obtaining business buy-in for a data strategy.

• Understand the different types of Data Strategy and how to set the scope for it.

• Learn how to create metrics for tracking the progress of your data strategy.

• Learn about the need for and the application of Data Asset management and Governance for different categories of challenges.

• Understand why a Business focused Data Governance framework must be aligned with your emerging data strategy.

• Appreciate the critical role that Data Governance plays in the core Information disciplines including Master Data Management and Data Quality Management, and why this should be recognised in your Data Strategy.

Pragmatic Learning:

• Discover the different types of data strategies and which is most appropriate and practical for you.

• Learn the different motivations for Data Asset management and Governance and how best to develop an individual strategy.

• Develop a set of usable techniques that can be applied to a range of Information Management challenges.

• Learn the best practices for managing Enterprise Information needs.

• Learn how to create an actionable roadmap to map your data strategy.

• Understand how to identify the activities that are necessary to support the data strategy.

Course Outline

Components of a Data Strategy

• Where do I Start & What is the Scope of the Data Strategy?

• Building Blocks of a Data Strategy & Architecture

Establishing Goals & Gaining Buy-In

• Motivation and Drivers

• Internal Factors

• External factors

Data Management Maturity Assessment

• Data Management Maturity Assessment of the Disciplines of Data Management.

• Methods for Organisational Enablers of Information Management.

• People

• Executive Sponsorship/Policy

• Technology

• Processes

• Measurement

• Data Management Processes / Practice

Data Governance: Managing people, Organisation & Process

• Data Ownership & Governance

• The organisation structure for data governance

• Charters or terms of reference for steering group(s) and the recommended constitution of each group

• Sponsorship

• Roles & Responsibilities & People Capabilities

• The essential Data Governance roles & activities.

• Capabilities for core Data Management roles may be covered in a strategy.

Data Management Process

• A Data strategy should tie in the Change Management Process, and

Solutions Development Process with data touch points during the Systems Delivery Life Cycle (SDLCL).

Prioritising Business Critical Data and Capabilities

• Capabilities & Critical Data

• Defining & managing the business-critical data and the people capabilities required for their management.

• Architecture

• Building the appropriate technical architecture for the known and anticipated data needs, incorporating the need for flexibility and emerging technologies.

• Recommending the overall Technical Data Architecture for achieving the priority needs of the data strategy.

• Principles & Minimum Standards for Data

• The principles for data management with rationale, implications minimum standards and metrics.

Defining an Actionable Roadmap

• Success Metrics

• From the Principles and Minimum standards, quantifiable success metrics can be developed. Examples will be used to illustrate this.

• Priorities & Quick Wins

• Business initiatives and priorities that are used in the formulation of the roadmap and transition steps. In particular, the transition steps will be aligned with business initiatives.

• Roadmap, Dependencies and Transition Steps

• Roadmap of the recommended activities to move the data initiative forward.

• The overall roadmap must make it clear that there will be dependencies with some activities, for example to undertake XYZ Master Data Management, a minimum viable Data Governance process and responsibilities must be established for area XYZ.

• The overall “Roadmap” is made up of Transition steps which can be bundled into Transition projects. The key consideration here is that the most successful transitions are where they are aligned with business initiatives and are not simply “data projects”.

• Culture, Communication, Sustainability & Education

• Development of a communication plan regarding the data strategy. The communication plan needs to have at least: Audience, Message, Method, Frequency.

• Development of an education plan to raise Data Management competencies across the organisation and ensure the sustainability of the strategy.

Funding Model

• Recommendations on funding approach for Data initiatives.

Additional Activities to Support the Strategy

• Identify Candidates for Roles

• Determine Data Owners & Stewards

• Current Roles and Skills, Perform Gap Analysis

• Identify Training Required to Address Gaps

• Brief and Mentor Data Owners

• Define Data Subject Areas & Develop Gaps

• Determine & Prioritise Business Areas for Data Governance Rollout

Audience

• Data Strategists

• Data Governance Managers

• Data Quality Managers

• Data Analysts

• Data Architects

• MDM Managers

• Information Architects

• Business Intelligence & Data Warehouse Developers & Architects

• Entrepreneur Architects

• Solution Architects

• Application Architects

• Business Analysts

• Project / Programme Managers

• IT Consultants

• Information Quality Practitioners

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**Data Modelling Essentials**

Chris Bradley

**Overview**

This 2-day course addresses the core data management topic of data modelling. Often misunderstood and relegated to just the technical aspect of “database design”, data modelling is one of the most important disciplines of data management. The course introduces delegates to data modelling, its purpose, the different types of models, how to construct and read a data model, and the wider use of data models beyond the traditional area of database design. It contains a wide-ranging clarification of data modelling concepts and terminology, together with techniques for producing usable data models.

**Learning Objectives**

This course explains the essential data modelling building blocks. It will help students to understand the differences between relational and dimensional models, and between the different levels of Conceptual, Logical and Physical models. On completion they will be able to:

- Describe the purpose of, Conceptual, Logical, and Physical data models
- Create a Conceptual and a Logical Data model
- Read and interpret a data model
- Understand different approaches for fact finding and how to apply normalisation techniques
- Understand how to validate a data model.

At the end of the course, delegates would have gained the following:

**Level Set Understanding & Terminology:**

- Learn about the need for and application of Data Models
- Approach settings for creating a data model (Top Down, Bottom Up, Middle out) and when to use them.

**Data Modelling Basics**

- What is Data Modelling and why does it matter?
- What is the relationship between a data model and other types of models in the Enterprise Architecture?
- What is a Conceptual Data model, why it’s important and the pivotal role it plays in all architecture disciplines?
- The major differences between Enterprise, Conceptual, Logical, Physical and Dimensional data models
- Data vs MetaData; what’s the difference and why does it matter?

**Data Model Components**

- Data Modelling Basics; Entities, Attributes, Relationships
- How to identify Entities and Subtypes
- What are the differences between exclusive and non-exclusive subtypes?
- How do different data modelling notations represent subtypes?
- Basic standards that you can use right away
- Relationships: Cardinality & Optionality, Identifying, Non-identifying, recursive, and many-to-many
- How does cardinality and referential integrity lead to better data quality?
- Rules for handling Super types, subtypes, many to many and recursive relationships
- Keys; Primary, Natural, Surrogate, Alternate, Inverted, Foreign
- What are the alleged and actual benefits of surrogate keys?
- Attribute properties & attribute domains

**Creating Data Models**

- How to get started with data models
- What core information is needed to create a data model, how can this be easily communicated to business people, and what visual constructs to use to get their attention
- Templates and guidelines for a step-by-step approach to implementing a high-level data model in your organization
- How to capture requirements for data models

**Course Outline**

**Data Modelling Basics**

- What is Data Modelling and why does it matter?
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- How to capture requirements for data models

**Audience**

Practitioners who will need to read, consume or create data models to gain a better understanding of data during Information Management initiatives including:

- Business Intelligence & Data Warehouse Developers & Analysts
- Data Modellers
- Data Architects
- Business Analysts
- Enterprise Architects
- Solution Architects
- Application Architects
- Information Architects

- Business Analysts
- Developers
- Database Administrators
- Project / Programme Managers
- IT Consultants
- Data Governance Managers
- Data Quality Managers
- Information Quality Practitioners
Overview
This course explores the more advanced techniques for Data Modelling. In addition, techniques will be taught on how (and when) to create Data Models for non-relational solutions including Big Data together and the uses for data models beyond Relational DBMS development.

Learning Objectives

**Practical Application:**
- Build conceptual and logical data models, and know about compromises for physical design
- How to discover requirements for robust data models
- Understanding where abstraction is valuable (and where it is risky)
- Where industry data models can provide a kick start
- How (and where) to apply standard solutions to well-known data modelling business scenarios.

**Level Set Understanding & Terminology:**
- Learn about the need for and application of Data Models in Big Data and NoSQL environments
- See the areas where Data modelling adds value to Data Management activities beyond Relational Database design
- Understand the critical role of Data models in other Data Management disciplines particularly Master Data Management and Data Governance

**Pragmatic Learning:**
- Learn the best practices for developing Data models for Big Data and NoSQL environment
- Understand how to create data models that can be easily read by humans
- Recognise the difference between Enterprise, Conceptual, Logical, Physical and Dimensional Data models
- Through practical examples, learn how to apply different Data modelling techniques

Course Outline

**Data Modelling Recap**
- Data modelling basics
- major constructs
- identifying entities
- Data model types, and the linkage between them

**Levels of Models**
- Enterprise, Conceptual, Logical & Physical
- What is the purpose of each, do we need all of these in a Big Data world?
- Where does Dimensional modelling fit in?

**Data Modelling – Back to the Future?**
- Data Modelling didn’t start with relational? This may be a surprise to many people, but the first uses of data models were well before Relational data bases became the norm. The techniques are applicable to many of the modern non-relational formats we see today.
- Modelling in the pre-relational days. We didn’t have RDBMS’s. We had flat files, Sequential, VSAM, Hierarchical DBMS’s, Inverted Architecture DBMS’s.
- The techniques that were developed for these are directly applicable to the NoSQL and Big Data world of today.

**Data modelling for Big Data & NoSQL**
- What has to change when we are developing data models for a Hadoop or other Big Data environment?
- Do modelling tools support Big Data technologies, what are the restrictions and considerations?
- What data modelling techniques are applicable when targeting a Big Data platform?
- Does normalisation still have a place in the Big Data world?
- Where’s our metadata in the model now?
- In the age of big data, popular data modelling tools (eg ER/Studio, ERWin, PowerDesigner) continue to help us analyze and understand our data architectures by applying hybrid data modelling concepts. Instead of creating pure a relational data model, we now embed NoSQL sub-models within a relational data model. In general, data size and performance bottlenecks are the factors that help us decide which data goes to the NoSQL system.
- Key Value Pairs: A common misconception is that using data structures like JavaScript Object Notation (JSON) prevents us from needing a data model; THIS IS WRONG. We’ll show several examples & conclude that a set of JSON files can be just as complicated as a 100 table 3rd Normal Form data model.
- NoSQL & Hadoop: How the 4 types of NoSQL databases still need data models, and how the ACID vs BASE paradigm affects this.

**Modelling for Hierarchic Systems & XML**
- What must change when developing data models for XML & Hierarchic systems?

**Services Oriented Architecture (SOA)**
- Why data models are essential for success.

**Massively Denormalised Files**
- Is modelling needed?
- How do we create data models for Data lakes?

**Dimensional Data Models**
- How do we create a dimensional model?
- Converting an ER model to Dimensional.
- Slowly changing dimensions, what types and when are they applicable.
- Beyond the basics with conformed dimensions, bridges, junk dimensions & fact less facts.

**Application Packages & Data Models**
- Do we need to develop data models when implementing a COTS package?
- Uses and benefits.

**Using Data Models for Data Integration & Lineage**
- How to exploit data models for design of data integration approaches and in data lineage.

**Top Down Requirements Capture**
- When it is appropriate
- What are the limitations.

**Bottom Up Requirements Synthesis**
- When this works, where is it appropriate.
- How do we cope with existing DBMS’s and systems.

**How to Capture Requirements for Both Data and Process Needs**
- What comes first Data or Process – we’ll show the answer.
- The critical importance of understanding processes to get your data models right (and vice versa).
- Interaction between process and data models.
- Approaches for capturing Process AND Data Requirements.

**Checking the Data vs the MetaData: Why Does it Matter?**
- Use of Standard Data Model Constructs and Pattern Models
- Understanding the Bill of materials (BOM) construct. Where can it be applied, why it’s one of the most powerful modelling constructs.
- Party; Role; Relationship: Why mastering this construct can provide phenomenal flexibility.
- Mastering Hierarchies: Different approaches for modelling hierarchies.

**Different Data Modelling Notations & a Comparison Between Them**
- Normalisation
- Progressing beyond 3NF, 4NF, 5NF

Audience

**Business Intelligence & Data Warehouse Developers & Architects**
- Enterprise Architects
- Solution Architects
- Application Architechts
- Information Architechts
- Business Analysts
- Database Administrators

**Data Modellers**
- Project / Programme Managers
- IT Consultants
- Data Governance Managers
- Data Quality Managers
- Information Quality Practitioners

**Data Architects**
- Information Quality Practitioners

**Data Analysts**
- Information Quality Practitioners

**IT Professionals**
- Information Quality Practitioners

**Information Quality Practitioners**
- Information Quality Practitioners

**Data Architects**
- Information Quality Practitioners

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21-22 April 2020
Mastering Data Modelling Techniques
23-24 April 2020
Ten Steps to Data Quality
1-3 June 2020
Design and Build a Data Driven Digital Business
1-3 June 2020
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Presenters

**Chris Bradley** has spent 37 years in the forefront of the Information Management field, working for International organisations in Information Management Strategy, Data Governance, Data Quality, Information Assurance, Master Data Management, Metadata Management, Data Warehouse and Business Intelligence. He advises clients including National Grid, EDP, BP, Enterprise Oil, Saudi Aramco, Shell, Statoil, TOTAL, Qatar Gas, Alba Leasing, Alinma Bank, American Express, ANZ, Bank of England, Celsere, Cigna Insurance, Emirates NBD, GSK, HSBC, NAB, SABB and Riyad Bank. Chris is Director of the E&P standards committee “DMBoard”, an author of several books including “Data Modelling for The Business” and “DMBoard 2.0” a member of the Meta Data Professionals Organisation (MDPO) a Fellow of BCS and DAMA CDMP, recipient of the DAMA Lifetime Achievement Award for Data Management Excellence, and author of significant parts of professional certifications. Chris is an acknowledged thought leader in Data Modelling and Data Governance, author of several papers and books including “Data Modelling for the Business”.

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**Overview**

Data Governance is rapidly becoming a ‘must have’ for any organisation wanting to manage its data, improve its quality, and control its security, access and uses. An average organisation’s data is doubling every 15 months. Propelled by Big Data, Cloud Computing and other innovations, this rapid increase in volumes is compounded by the increasing speed and complexity with which data is created and stored. Organisations are also under increasing customer, regulatory and legal pressures to get data right. Data Governance is seen as a keystone in any solution to address these challenges. Many organisations have already recognised the potential value of Data Governance and have started governance initiatives. Though some have succeeded, many are faltering or have failed. Attending this 2-day seminar & workshop will ensure that you set off on the right path to successful and sustainable Data Governance. Key Topics include:

- What is Data Governance?
- Why is it increasingly a ‘must have’ for organisations?
- Building the internal case for Data Governance
- How and where do you start?

Note that course will help you whether you are new to Data Governance or already working as part of an existing Data Governance team or programme.

**Learning Objectives**

- Understand what Data Governance is, and what it isn’t
- Assess the readiness of your organisation for Data Governance
- Be able to align a Data Governance proposal and initiative with your key organisational & departmental drivers
- Make the internal business case for investment in Data Governance
- Be able to identify and apply the six necessary components of a Data Governance framework
- Create a realistic plan of action for Data Governance
- Apply these practices to a fictional, but highly realistic organisation via a hands on case study
- Learn from best practices in other organisations who are already implementing Data Governance

**Course Outline**

**Scene Setting & Introductions**
- Scope & objectives of the seminar
- Seminar agenda & attendee expectations
- Introduction to the case study

**Data Governance Context & Drivers**
- The overall data landscape
- Some recent data disasters & horrors
- Current & future data challenges
- The overall industry impact of poor data
- A call for action

**Data Governance – An Industry Assessment**
- Data Governance – definitions and focus
- How successful has Data Governance been?
- Why Data Governance can fail
- Key components of success – breaking down the barriers

**The Components of Successful Data Governance**
- The DAMA DMBOK wheel – the centrality of Data Governance
- The Data Governance Framework explained:
  - Vision & Strategy
  - Organisation & People
  - Processes & Workflows
  - Data Management & Measures
  - Culture & Communications
  - Tools & Technology
- Applying the Data Governance Framework

**Establishing a Starting Point – Data Governance Readiness**
- Plotting the journey – Data Governance maturity
- Implications of the maturity assessment
- Case study exercise 1 – context and maturity assessment

**Building the Data Governance Strategy**
- Vision & Strategy
- Creating a clear Data Governance vision
- Understanding business drivers
- Identifying key data challenges
- Producing a Motivation Model
- Building a business case for Data Governance
- Case study exercise 2 – Creating a Motivation Model
- Organisation & People
- Organising for Data Governance – industry model structures
- The pros & cons of each model
- Required teams, roles & skills
- Deciding on the right model for any specific organisation
- Case study exercise 3 – Designing a Data Governance organisation
- Processes & Workflows
- Data Governance & business process design & operation
- Analysing business processes – Lean approaches
- Designing Data Governance processes & workflows
- Data Governance processes explained
- Case study exercise 4 – Business process analysis & Data Governance processes and workflows
- Data Management & Measures
- The importance of measurement in Data Governance
- What to measure & how to measure it – the importance of data definition
- Establishing baselines and improvement targets
- Data Improvement Projects
- Tracking and sustaining the benefits

**Creating the Data Governance Roadmap**
- Bringing it all together – the Data Governance Roadmap
- Hints & tips for developing Roadmaps
- Implementing the Roadmap: a three phase approach
- Case study exercise 7 – Creating a Data Governance roadmap & selling it

**Data Governance in Reality**
- A summary of real life Data Governance success stories
- Telecommunications
- Utilities
- Banking & Finance
- Retail
- Professional Certification Organisation
- Lessons learned from these case studies

**Summary & Conclusions**

**Audience**

Individuals and teams who are playing, or would like to play, an active role in the implementation of a Data Governance initiative. It will also be of interest to anyone working in a relevant business or IT role who wants to know more about Data Governance concepts and practices. Typical roles who will benefit from this tutorial / workshop include:

- Heads of Data Governance & their teams
- Chief Data Officers & their teams
- Data Stewards
- Data Owners
- Information Strategists & Architects

**Business Analysts**
**Data Quality Specialists**
**Master Data Management Practitioners**

**In-House Training:** This course is available on-site. Email customerservice@irmuk.co.uk with your enquiries.
Ten Steps to Data Quality

Danette McGilvray

Overview
Simply put, information quality is providing the correct set of accurate information, at the correct time and place, to the correct people. However, ensuring quality information is far from simple. Whether you are just starting a project or are already in production, it is not unusual to find that data quality issues prevent organizations from realizing the full benefit of their investments in business processes and systems. The Ten Steps to Data Quality course teaches a practical approach to creating, improving, and managing the quality of information critical to providing products and services, satisfying customers, and achieving goals for any type of organization. If you are working on real data quality-related issues that need real results, this is the course for you. What is learned applies to all kinds of data and every type of organization – for-profit businesses of all sizes, education, government, healthcare, and nonprofit – because all depend on trusted information to succeed. Both concepts and practical application are included. Concepts provide a foundation for understanding data quality. Concepts are put into action through the Ten Steps™ process. Both are needed to apply the methodology appropriately to the many data quality related situations that attendees will face within their organizations. In addition to discussion and exercises (individual and as a group), attendees will practice what is learned by applying the steps and techniques to a course project of their choice. Come with your particular needs in mind, be ready to participate, practice applying what is learned to your situation and leave with realistic methods for managing data quality.

Learning Objectives
• Turn data quality challenges into actionable projects with clear objectives
• Connect data quality issues to business priorities
• Understand concepts that are fundamental to data quality management, (for example, the Framework for Information Quality, information life cycle, data quality dimensions, business impact techniques, root cause analysis)
• Choose the appropriate steps/activities from the Ten Steps™ process to address business needs
• See how other data management topics such as data governance, data modeling, metadata, business rules, master data, reference data, and data standards fit into the process for ensuring high quality data

Course Outline
The Data and Information Quality Challenge
• Information and data quality defined
• Why we care about data quality
• Data quality in action through programs, projects, and operational processes
• The Ten Steps™ methodology – key concepts plus the Ten Steps™ process

Key Concepts – A Necessary Foundation for Understanding Information Quality
• Framework for Information Quality (FIQ) – Components that impact information quality
• Business Needs – Goals, Strategies, Issues, Opportunities
• Information Life Cycle (POSMAD – Plan, Obtain, Store and Share, Maintain, Apply, Dispose)
• Key Components that affect information quality (Data, Processes, People/Organizations, Technology)
• Interaction between the Information Life Cycle and the Key Components
• Location (Where) and Time (When and How Long)
• Broad-Impact Components (RRISC – Requirements, Constraints, Responsibility, Improvement and Prevention, Structure and Meaning, Communication, Change)
• The relationship between Data Governance, Stewardship, and Data Quality

Step by Step: The Ten Steps™ Process
• Each of the Ten Steps is covered in the seminar with instructions, techniques, examples, templates and best practices.
• Data quality tools will also be discussed in the applicable steps.
• Exercises and working on a course project with small teams give attendees the opportunity to practice what is learned.

Step 1 Determine Business Need and Approach
• Define and agree on the issue, the opportunity, or the goal to guide all work done throughout the project.
• Refer to the business need throughout the other steps in order to keep the goal(s) at the forefront of all activities

Step 2 Analyze Information Environment
• Gather, compile, and analyze information about the current situation and the information environment.
• Document and verify the information life cycle, which provides a basis for future steps, ensures that relevant data are being assessed, and helps discover root causes
• Design the data capture and assessment plan

Step 3 Assess Data Quality
• Evaluate data quality for the data quality dimensions applicable to the issue
• Results of assessments provide a basis for future steps, such as identifying root causes and determining needed improvements and data corrections
• Overview of all the dimensions of data quality and how to choose which dimensions will best support business needs

Step 4 Assess Business Impact
• Determine the impact of poor-quality data on the business using a variety of quantitative and qualitative techniques.
• This step provides input to establish the business case for improvement, to gain support for information quality, and to determine appropriate investments in your information resource

Step 5 Identify Root Causes
• Identify and prioritize the true causes of the data quality problems.
• Develop specific recommendations for addressing the problems

Step 6 Develop Implementation Plans
• Finalize specific recommendations for action.
• Develop implementation plans based on the recommendations.
• Establish ownership for implementation

Step 7 Prevent Future Data Errors
• Implementation solutions that address the root causes of the data quality problems.

Step 8 Correct Current Data Errors
• Implement steps to make appropriate data corrections.

Step 9 Implement Controls
• Monitor and verify the improvements that were implemented
• Maintain improved results by standardizing, documenting, and monitoring appropriate improvements

Step 10 Communicate Actions and Results
• Document and communicate the outcome of quality tests, improvements made, and results of those improvements.
• Communication is so important that it is part of every step

Audience
Individual contributors and team members responsible for or interested in the quality of data in their business processes, systems or databases. This includes roles such as:
• Data Analysts
• Data Quality Analysts
• Business Analysts
• Data Designers/Modellers
• Data Stewards
• Application Developers
• Any data professional impacting the quality of data upon which their business depends

Presenters
Danette McGilvray is an experienced trainer, consultant and author of Executing Data Quality Projects: Ten Steps to Quality Data and Trusted Information™. An internationally respected expert, her Ten Steps™ approach to improving data quality has been embraced as a proven method for creating, improving, and managing the quality of all types of data for any kind of organization. Her book is used as a textbook in university graduate programs.

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Radhia Ghanem, Data Quality Analyst, NHS PE, UK

Danette McGilvray was brilliant. I would definitely recommend this course to colleagues.”
Graham Wall, Data Management Analyst, PaggGroup

“Danette McGilvray is very inspirational”
Overview

This workshop is intended to provide delegates with a comprehensive understanding of what is needed to run a successful Master Data Management (MDM) Programme. The workshop focuses on business and technical aspects of MDM and emphasises how the business and IT can work together to attain the full benefits of MDM. The workshop begins by level setting on the concepts of Master Data, how MDM has evolved as a discipline, and what business benefits MDM offers. Following this, details are presented of the components of an MDM Programme and how to set them up successfully. In particular, the need for governance within an MDM Programme, particularly for decision-making, is explained.

The technical aspects of MDM are dealt with in a top-down manner, beginning with how MDM fits into an enterprise-level architecture, and drilling down to the architecture within an MDM hub, and finally to the data design and standardisation level. The technical aspects go beyond technological considerations and also include semantics and reference data, which are both of critical importance for success of an MDM Programme.

Specialised needs of MDM are also considered. Data integration within an MDM hub is a primary consideration, as is how it is linked to the ways in which Master Data can be produced by knowledge workers in the enterprise. Data quality is also an extremely critical success factor for MDM, and techniques for it are presented. The whole concept of how Data Privacy, in its widest sense, is applied to MDM is also examined. This includes not only Personal Information, but also data purchased from Data Vendors with contractual restrictions. The way in which MDM drives analytics is also explained, along with considerations that need to be implemented in any MDM Programme.

Course Outline

Introduction to MDM

- What Master Data is, and what Master Data Management (MDM) is
- The benefits MDM provides for the enterprise
- How MDM evolved and where it is today
- The common types of Master Data Entities and how MDM is specialized for them

The Components of an MDM Programme

- The benefits of a coordinated MDM Programme vs. standalone projects
- The typical sequence of an MDM project
- Who does what in an MDM Programme and MDM project
- People and organizational structures in MDM Programmes

Getting Ready for MDM – Governance, Decision Making and Accountabilities

- Why decision making needs to be formalized in an MDM Programme
- Example of accountabilities needed in an MDM Programme
- The importance of Master Data Entity domain knowledge vs technical knowledge
- Governance requirements and organization for an MDM Programme

Aligning Business with the MDM Programme

- Fitting MDM into the business value chain
- Fitting Business Processes and MDM ‘Together’
- How to gain adoption for MDM
- Measuring business value of MDM

MDM Technical Architecture

- Understanding MDM Hub Patterns
- How to fit MDM into an enterprise-wide Data Architecture
- Understanding production vs. distribution of Master Data
- Understanding the layered architecture of an MDM Hub

Data Models and Designs for MDM

- How to manage the semantics needed for MDM Programmes
- Understanding Adaptive vs. Fixed Data Models
- Need for Logical Data Models in an MDM Programme
- Role of Reference Data in MDM Programmes

Data Integration in MDM

- Description of data integration
- Trust and Survivorship in MDM
- Capturing and governing Trust and Survivorship business rules
- Understanding merge and unmerge processes in MDM

Selection of MDM Tools

- Multi-domain vs. single-domain MDM tools
- Mega-vendors vs. Best of Breed in MDM
- Approach to an MDM tool selection exercise
- Thoughts on MDM tool implementation and post-implementation support

Data Privacy and MDM

- Brief overview of the scope of Data Privacy and relevance to MDM
- How to Protect Personal Information in an MDM Programme
- How to implement processes for Permitted Use of Master Data

Data Acquisition and MDM

- Brief overview of the scope of Data Acquisition and relevance to MDM
- Workflow for Data Acquisition into an MDM Hub
- Data Acquisition outside of the MDM Hub
- Data Vendor Management for Master Data

Data Quality and MDM

- The role of Data Quality in an MDM Programme
- Implementation of Continuous Production Data Quality Management for MDM
- Implementation of Data Issue Management for MDM
- How to Govern Data Quality Business Rules for MDM

Analytics and MDM

- The role of an MDM Hub as a Conformed Dimension server
- Knowledge Management of MDM for Analytics
- Extending the MDM Hub to include Analytics outputs
- Governance implications of using Master Data in development and production phases of Analytics

Audience

- Enterprise Knowledge Workers
- Data-centric Business Operations Staff
- Information Managers
- Information Architects
- Data Architects
- Enterprise Architects
- MDM Managers
- Data Governance Managers
- Business Analysts
- Executives
- Business Technology Partners

Presenter

Malcolm Chisholm is a recognised expert in data governance and data management with more than 25 years of industry experience.

Malcolm’s published works include Definitions in Information Technology (how to create and manage high-quality definitions for data management), How to Build a Business Rules Engine (how to use metadata engineering to build any kind of business rules engine) and Managing Reference Data in Enterprise Databases (the only book on Reference Data Management). Malcolm’s background includes specialisations in master data management, data governance, data stewardship, master data management, reference data management, Data-centric Development Lifecycle, Semantics (including terminology definitions, taxonomy and ontology), business rules management, data architecture, data modelling, data integration, big data environments, data quality (detection and data issue management), data change management, data lineage, metadata tools, data legal/privacy/compliance, data monetisation, data vendor management and end user computing governance.

In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.
Overview

Business Intelligence (BI) has made data the foundation of decision making since the 1990s. Today, digital business is fundamentally reinventing decision making, by putting information from every person and data from every sensor at decision makers’ fingertips. It challenges them to use it to address every aspect of business, to create anew every existing process, and to reinvent, not just decision making, but the entire enterprise.

Call it BI or analytics, serve it from a warehouse or a lake, it doesn’t matter. The implications span the entire business and IT environments across the full breadth of the organisation.

Modern architectures, technologies, and methods in data management and analytics incorporate all today’s technological advances in databases, NoSQL stores, and data preparation, as well as SOA, metadata, distributed access, collaboration, etc. And they directly address current issues, such as operational BI and analytics, strategic decision making, analytics, information discovery, and enterprise-wide decision management.

Expanding from his comprehensive and respected “Business unIntelligence—Insight and Innovation” architecture to emerging topics such as the Internet of Things, algorithms, and artificial intelligence, Dr. Barry Devlin charts the essentials of data warehouses and data lakes, BI and analytics to build a digital business from the existing data warehouse and BI systems running enterprises today.

Learning Objectives

- The meaning and implications of digital business
- Drivers, structure and components of decision-making support architectures
- Data and Information— for data warehouses, marts and lakes
- Possibilities and challenges of new database and data management technologies
- Formal and informal processes— getting from information to action
- Data virtualization and preparation tools for integration across warehouses and lakes
- Positioning and using algorithms and analytics in support of decision making
- People— action-oriented decision making
- The importance of business context and user roles in decision processes
- Planning and implementation— practical steps for building modern warehouses, lakes and BI

Course Outline

Digital Business—History and Emergence
- A brief history of decision-making support
- Origins and meaning of digital business
- An Architecture Combining Data Warehouses and Data Lakes
- The emergence and impact of big data, the Internet of Things and artificial intelligence
- A new layering approach— Information, Process, and People
- The pillars of a new architecture that supports multiple storage technologies

The Information Resource— the Foundation for Everything
- Information/data classes— human-sourced, machine-generated and process-mediated
- Big data— hype and reality, sources and types, implications for business and IT
- Key considerations— timeliness/consistency, structure/context, and reliance/usage
- Metadata as information— sources and stores, tools and techniques
- Relational database evolution— structures, software and hardware
- NoSQL data stores, Hadoop-based databases, XML, JSON-based and other data stores
- The Business Processes— Getting from Decisions to Actions
- Data Preparation, ETL, Data Warehouse Automation, Wrangling, and Data Virtualisation
- The new role of users in “application development”
- Understanding adaptive, closed-loop business processes
- Service Oriented Architecture and Microservices
- A model for decision making and action taking— the adaptive decision loop

The People— Understanding Needs and Engaging Innovation
- Motivation and the workings of the human mind in business systems
- Classes of BI— information-centric, process-centric and collaborative
- BI, analytic and other decision support tools
- Decision-making and action-taking in a closed-loop, real-time environment
- Augmenting and/or Automating decision making and action taking
- The emergence and importance of artificial intelligence
- Planning and Implementation
- Evolution— not revolution
- The Staged Implementation Roadmap
- Organisational considerations; changes in IT culture and responsibilities
- Selected possible first migration steps

Audience

- Enterprise, systems, solutions and data warehouse architects
- Systems, strategy and BI/analytics managers
- Data warehouse/lake and systems designers and developers
- Data and database administrators
- Tech-savvy business analysts

In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.
Overview
This new 3-day interactive workshop combines the core content from two popular data modelling courses by Alec Sharp – Business Oriented Data Modelling and Advanced Data Modelling. This workshop, suitable for both model builders and model users, will explore unique techniques for rapidly developing high-quality models while maintaining the involvement of business professionals. It then provides hands-on practice with skills in more challenging topics such as generalisation, recursion, subtype, modelling time and history, presenting models to non-technical groups, the connection between E-R modelling and dimensional modelling, and many more.

Learning Objectives
• Apply techniques that engage business professionals in developing a concept model / conceptual data model;
• Use enterprise-oriented data modelling to depict entities, attributes, and models;
• Utilise the three "learning modes" in developing and presenting a model – Visual, Auditory, and Kinesthetic;
• Apply event analysis and other techniques to discover and meet additional requirements;
• Use subtyping, recursion, multi-way associations, and other structures to model difficult rules;
• Model change, correction, and time-dependent business rules with "temporal data models";
• Rapidly develop a first-cut dimensional model from a well-structured ER model;
• Prepare and deliver a model review presentation to a non-technical audience.

Course Outline
Establishing the Initial Conceptual Data Model
• Top down vs. bottom up approaches to beginning a data model – when is each appropriate?
• A bottom-up approach focusing on collecting and analyzing terminology
• A structure for sorting terms and discovering entities
• Exercise – developing an initial conceptual data model
• Entities – what they are and are not
• Guidelines for naming and defining entities
• Three questions to help you quickly distinguish between entities
• Exercise – identifying missing entities
• Critical data entities
• Four common errors in identifying entities
• Identifying relationships
• Fundamental vs. irrelevant or transitive relationships
• Good and bad relationship names
• Mulitcity or cardinality – 1:1, 1:M, M:M relationships, and useful facts about each
• Common errors and special cases – recursive, multiple, and supertype-subtype relationships
• Attributes – guidelines and types
• Attributes in conceptual models vs. logical models

Developing the Initial Logical Data Model by Adding Rigor, Structure and Detail
• Transition to the logical model – shifting the focus from entities to attributes
• Multi-valued, redundant, and constrained attributes, with simple patterns for dealing with each
• An understandable guide to normalisation – first, second, and third normal forms
• Higher order (fourth and fifth) and Boyce-Codd normal forms
• Exercise – developing the initial logical data model
• Four types of entities – kernel, characteristic, associative, and reference
• Guidelines and patterns for dealing with each type of entity
• How to draw your E-R Diagram for maximum readability and correctness
• Optional and mandatory relationships
• Considering time and history when looking at relationships
• Typical attribute documentation
• A common source of confusion and disagreement – primary keys
• What primary keys are, what they’re really for, and three essential criteria
• The four Ds of data modelling – definition, dependency, detail, and demonstration
• E-R Diagramming – symbol sets and their problems, rules for readability and comprehension
• Correctly Handling Attributes
• Generalisation (subtyping) – when to use it, and when not to
• Guidelines for using recursive relationships
• Generalisation and recursion working hand-in-hand as a cure for literalism
• Recognising lists, trees, and networks, and modelling them with recursive relationships
• Modelling difficult rules by combining generalisation (subtyping) and recursion

Modelling Time, History, and Time-Dependent Business Rules
• Historical vs. audit data, and when to show them on a data model
• Thanks, Sarbanes-Oxley! Why we need “as-of reporting” and how to model data corrections
• “Do you need history?” – how to tell when your client is misleading you
• Modelling time – special considerations for recording past, present, and future values
• Modelling time in capturing history in a data model
• Seven questions you should always ask when a date range appears

Modelling Rules on Relationships and Associations
• Using multi-way associations to handle complex rules
• “Use your words” – how assertions, scenarios, and other techniques will improve your modelling
• Associative entities – circular relationships, shared parentage, and other issues
• Alternatives for modelling constraints across relationships
• Advanced normal forms – how to quickly recognize potential 4NF and 5NF issues
• A simpler view – why the five normal forms need to be reduced to three

Preparing and Delivering a Data Model Review Presentation
• Context – your audience, and why the model matters to them
• It’s a story, not a model! Building a storyboard
• Five key techniques for presenting data models or other technical subjects
• The mechanics of the data model review presentation
• A demonstration

Bridging the “E-R vs. Dimensional” Divide – the World’s Shortest Course on Dimensional Modelling
• The perils of dimensional modelling without understanding the underlying E-R model
• Spolting facts and dimensions – the relationship between dimensional models and E-R models

In-House Training: This course is available on-site. E-mail customerservice@irmuk.co.uk with your enquiries.
“I learnt so much from the event; networked and met some fantastic people.”
Louise Tharnthong, Head of Transformational Change, O2

“Great networking opportunities with people at the top of their game!”
Emmanuelle Sangster, Business Change Manager, AWE Plc.

“It is a ‘must attend’ MDM & DG event for any practitioners and the program gets better every year.”
Mary Drabble, Principal Data Governance Analyst, Aberdeen Standard Investments

“High quality event with top speakers and topics. A perfect mix between MDM and Data Governance status and trends.”
Galand Vincent, Senior Business Analyst, ING Belgium

“Really enjoyed it – I leave having learned loads and full of ideas on how to apply at Lloyds. Thank you”
Marta Korus, Lead Business Analyst, Lloyds Banking Group

“I have absolutely loved the conference. Great people, great presentations, great venue.”
Thamer Miles, Lead Analyst, Data & BI, Whitbread

“There’s a reason why people keep coming back year after year – great conference (as always).”
Terje Bremnes, Enterprise Architect, Helse Vest, Norway

“Possibly the best conference I’ve ever attended for the insights and ideas it has provided.”
Philip Ainsworth, Business Architect, Student Loans Company

“Great conference, the best event in Data Management! Excellent speakers and very interesting content.”
Ana Teresa Szmoes, Caixa Geral de Depósitos

“This event never fails to enable me to connect with people who I can learn from and who can re-energise me in Data Management.”
Andy Moore, Process Specialist, Information, Rolls-Royce
IRM UK is a leading provider of strategic Business and IT Training for Business and IT Management. We provide courses and conferences on Enterprise Architecture and Strategy, Business Analysis and Enterprise Data Management. We have a wide range of speakers, many of whom are leading figures in their fields. Our events are condensed and rigorous combining technical explanations with management advice and discussions of future directions.

Registration Information:
Full payment or a purchase order is due prior to the event. Payment may be made in Sterling (£) or Euros (€). If paying in Euros the prevailing exchange rate of the country of the delegate or delegates’ company is to be used. The total Euros remitted should be the amount required to purchase the sterling pound cost of the event on the day of payment. All delegates must add VAT (20%) to their total event fees. VAT may be reclaimed by delegates from the tax authorities after the event.

The registration fee includes the lectures, documentation, refreshment breaks and lunch on each day of the event. The cost of hotel accommodation is not included in the event fee.

Cancellation Policy:
Cancellations must be received in writing at least two weeks before the commencement of the course and will be subject to a 10% administration fee. It is regretted that cancellations received within two weeks of the course date will be liable for the full fee. Substitutions can be made at any time.

Cancellation Liability:
In the unlikely event of cancellation of the course for any reason, IRM UK’s liability is limited to the return of the registration fee only. IRM UK will not reimburse delegates for any travel or hotel cancellation fees or penalties. It may be necessary, for reasons beyond the control of IRM UK, to change the content, timings, speakers, date and venue of the course.

Course Timetable:
08.30 – 09.00 Registration (first day only)
09.00 – 12.15 Course
12.15 – 13.15 Lunch
13.15 – 17.00 Course

Course Venue:
etc.venues Marble Arch
Garfield House,
86 Edgware Rd,
London W2 2EA

Hotel Accommodation Details:
IRM UK in association with P&G Management have arranged special discounted hotel rates at hotels nearby. Contact P&G Management:
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