

System Modelling Techniques (Structured)

Profile

In order to communicate system requirements clearly and accurately to both business and IT stakeholders, it is vital for analysts and designers to be able to construct models from a variety of perspectives. In most cases these models will provide the basis for more detailed design.

The starting point for this course is a set of requirements, as defined in the Systems Development Essentials course. It is primarily concerned with modelling systems using structured techniques. It requires delegates to construct four main types of model reflecting different perspectives and to describe the interactions between them.

At the end of the course delegates may sit an examination to attain the ISEB Business Systems Development certificate in Systems Modelling Techniques. (These delegates should also book on course code SMTSEX-1). This course may be taken as part of the QA-IQ programme leading to the ISEB Diploma in Systems Development.

Course content

The Need for Standard Techniques

Places business systems modelling in context within a project life-cycle;
Types of model; Current and proposed business system modelling

Process Modelling using Dataflow Diagrams

The reasons for producing a business system process model; The principles behind the construction and use of DFDs; The benefits of using DFDs as a top-down, structured method of process modelling; Rules for construction; Supporting documentation

Static Modelling of Data using Entity/Relationship Diagrams

Entities/Relationships/Attributes; Developing logical data models; Drawing conventions

Dynamic Behaviour Modelling using Entity Lifecycles

Modelling the relationship between entities and processes (CRUD);
Modelling the behaviour of data entities in terms of their life-cycle;
Identification of the valid alternative paths

User Interface Modelling

The construction of a simple user interface model (user conceptual model)

Reviews

Guidelines and approach for reviewing the models against the business objectives and system requirements for consistency and completeness;
Use of Structured Walkthroughs for peer and business domain expert validation

Case Study

Throughout the course, a case study is used to reinforce and practise the topics discussed

Prerequisites

- An understanding of the fundamentals of systems development, or attendance of QA-IQ's Systems Development Essentials course
- This course is ideal for those who need to model business systems using structured modelling techniques
- This course is also ideal for those wishing to attain the ISEB Certificate in Systems Modelling Techniques. (These delegates should also book on course code SMTSEX-1). Candidates with special examination requirements should consult the ISEB web site (www.iseb.org.uk) for the ISEB Special Needs policy. Note that the ISEB must be advised at least four weeks in advance of any special requirements.

Skills

On completion of this course, delegates will be able to:

- Justify the need for modelling and modelling techniques
- Explain why it is important to model system requirements from different perspectives and identify specific modelling techniques
- Construct a static structure model (logical data structure, entity-relationship diagram)
- Construct a process model (data flow diagram)
- Construct a simple dynamic event driven model (entity-lifecycle diagram)
- Construct a simple user interface model (user conceptual model, web site navigation model)
- Evaluate how the various models reflect business objectives and system requirements (via critical success factors)
- Appreciate how the various perspectives inter-relate to each other