Model and analyse structured data

Overview

This standard is about using software applications designed to organise, store and retrieve structured information to meet needs.

It involves defining and designing data processing systems and using visualisation tools to present structured data effectively.

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Performance criteria

You must be able to:

1. define and design systems and methods required for efficient data processing according to organisational needs
2. select and use appropriate tools and techniques to process data to meet requirements
3. link structured data sources to other applications to meet requirements
4. use appropriate software tools and functions to explore data trends and develop models to meet requirements
5. select and use a wide range of appropriate tools and functions to analyse and interpret data to meet requirements
6. design, create and query relational databases to meet requirements
7. interpret and prepare data for presentation using visualisation tools and technique to meet needs of audience
8. respond to any errors or problems in data processing in line with organisational procedures
9. generate and interpret appropriate management reports
10. customise data input methods and outputs according to requirements

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Knowledge and understanding

You need to know and understand:

1. how to maintain data integrity and security
2. the range of data entry, manipulation and output techniques supported in the application software and how to apply them
3. how data structures are used to build dependencies and relationships between data
4. how a relational database design enables data to be organised and queried
5. how to identify and rectify problems of data duplication and redundancy
6. the importance of data validation and verification and how these can be assured in database development
7. methods used to summarise, analyse and interpret numerical data and when they are appropriate
8. appropriate graphical or charting technique to apply to different types of data
9. local guidelines and the regulatory environment surrounding use of data
10. implications of regulations and organisational guidelines for processing data

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