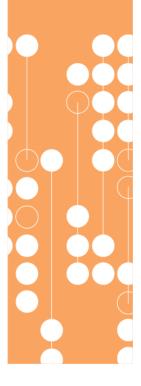# Conceptual Data Models

Exercise Handout

Exercise – creating a conceptual data model

Scenario

A District Council operates several libraries that contain over 100,000 books, 25,000 DVDs, and 10,000 games. It currently has a membership of nearly 7,000 members.

Each library is run by a small number of librarians who currently operate a card index system to control the loan of books, DVDs, and games to its members. The librarians require a new computer system because they cannot cope with the demand using the manual system.

Task 1 – Entities and relationships

1. Identify and make a list of the entities.
2. Using the list, make a list of entities and their relationships.
3. Draw the entities and relationships as a diagram. Use whatever tool you prefer or have available and use whatever notation you prefer.

Task 2 – Cardinalities

1. For each of the relationships, identify the numbers of occurrences involved for each direction. Add the cardinalities to your diagram.
2. Examine your diagram and decide whether you have adequate entities and relationships. Add more if you need them.

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