THE AUTOMATIC REALISATION OF A LOGICAL MODEL OF A DATABASE FROM AN ENTITY RELATIONSHIP DIAGRAM

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Data Base Management Systems are a vital tool in modern-day information processing. There are three approaches to the design of such systems - the hierarchical, network and relational approaches. Out of these approaches the relational is the most attractive due to its power and ease of operation. Data Base Management Systems operate on databases to store, retrieve and process information. This methodology has a number of significant advantages over the traditional one of maintaining discrete files, some of which may contain duplicated data. In this context the design of the logical model of a database assumes great importance. In this paper we should concentrate on how this could be done for a relational system, i.e. the building of a relational database. The design involves two steps :

1. The construction of a conceptual model from a verbal description of the data and the functions to be performed on it. The conceptual model will consist of all entities, together with the relationships between them. A conceptual model can be represented by an entity relationship diagram.
2. The construction of a logical model from the entity relationship diagram. This model will consist of a set of normalised relations - usually in 3rd Normal Form.

At present, step 2 of the design process is carried out by hand - a tedious procedure which can be fraught with errors. As such automation of this process will have practical value. This paper will present analgorithm for achieving this purpose.

Reference

Date, C.J. (1983) An Introduction to Database Systems.

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