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DEPARTMENT OF MECHANICAL ENGINEERING

Generic Methodology for Developing a Non Standard-specific Rationalised Information Flow and Storage System for Computer-based Manufacturing

By

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ABSTRACT

For a manufacturing company to become world competitive, it must, among other things, have an effective information processing capability. In today's environment, where there are a great variety of computer systems which an even greater variety of standards, the linking of computers to enable electronic data interchange is difficult and costly. This problem is addressed in this thesis with the development of a Generic, Non-standard Specific Information Flow System which enables computer users to select data which is to be shared in a company and store it in a common database from which it can be accessed by anyone in the company. The information in the common database is stored in a neutral format and the translation to and from this neutral format is done in the background by a Generic Format Translator, which has also been developed as part of this project. It is proposed that the information in the database is carefully selected to minimize memory requirements and speed up access time. A Generic Database Management System has been developed to control the data storage and retrieval processes. Trials of this package in industry have demonstrated that it is workable, cost effective and user-friendly.

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