

# An Information Schema to Support a Maintenance Process

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In this thesis, the information used during maintenance processes is clarified by investigating maintenance processes of some business application system with analyzing the correspondence between maintenance requirements and developmental documentation. We assumed the following maintenance environment: (1) A maintenance requirement is a relatively small-scale change of functions in a business application system. (2) The maintenance requirements from a user does not include the information about system implementation.

Based on the investigation, objects and relationships to perform maintenance activities efficiently are identified and the information schema is introduced. To assure the effectiveness of the schema, we performed another experiment.

A relational database was designed based on the schema and data of the operating business application system was stored in the database. The result of the experiment was successful and the effectiveness and sufficiency of the scheme is confirmed.

We also proposed some prototype of maintenance support system whose features as follows: (1) It reduces maintainers' burden for understanding the system to be maintained. (2) All of the parts to be changed in the system can be extracted. (3) An enough examination of ripple effects of a change can be made.