UNIVERSITI TEKNOLOGI MARA

MANAGING XML-BASED DATA INTEGRATION FOR A TIME-DISTANCE PROJECT MANAGEMENT

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IT Project submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Information Technology

Faculty of Computer and Mathematical Sciences

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AUTHOR'S DECLARATION

I declare that the work in this IT Project was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as reference work. This IT Project has not been submitted to any other academic institution on non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

In the context of the highway construction projects, various data were exchanged and shared to codify the knowledge and project management especially in planning and scheduling process. The inconsistency of format, different field values and schema layout had caused difficulties, data errors and unsupportive exchanged during the process of data and information sharing. This study proposed a binary integration approach based on three layer architecture. The target is to produce a flexible vehicle for data integration by producing an XML tool. The Extensible Markup Language (XML) is a tool which can help provide the necessary flexibility by providing a common syntax for expressing the structure of data. The construction of XML documents warehouses from data of each partner allows to propose a solution to the problems of structural heterogeneity. A basic schema query is generated from the source document to create a global schema. A merger rules were used to ensure the object attribute in the task template were matched with the code description in the source schema and resolving conflict occurred. This global XML document provided the underlying support for the data sharing, publishing and application access among various systems. In this study, the data integration and exchanging platform were demonstrates in the environment of two major application in time-distanced-based construction project management which is Microsoft Project and TILOS Linear software.

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