

# **A PROTOTYPE FOR CONVERTING AND MERGING MULTI TYPE DATABASES TO SINGLE DATABASE**



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## Letter of Report Submission

### BORANG TAMAT PROJEK GERAN PENYELIDIKAN

BAHAGIAN A : MAKLUMAT KETUA PROJEK		
Nama	Suzana Binti Ahmad	
Alamat Pusat Tanggung Jawab (PTJ)	Fakulti Sains Komputer dan Matematik UiTM Shah Alam	
Tajuk Projek:	A Prototype for Converting Stand Alone Database to Web Based Data Bank	
BAHAGIAN B : MAKLUMAT PROJEK PENYELIDIKAN		
No Rujukan Projek RMI	: 600-RMI/ST/DANA 5/3/Dst (310/2009)	
Tarikh Mula Projek	: 1 Januari 2010	
Tarikh Tamat Projek	: 1 Januari 2013	
BAHAGIAN C : HASIL PENYELIDIKAN		
<b>Penerbitan Berindeks</b> (Tajuk dan Penerbit)	<ul style="list-style-type: none"><li>• Towards Flexible Database Conversion with Automatic Restructuring, proceeding at 14th WSEAS International conference on Computers, Corfu Island, Greece, July 23-25, 2010</li><li>• A New System Architecture for Flexible Database Conversion, Journal in WSEAS Transaction on computers, Issue 11 volume 9, November 2010, pp1338-1347, ISSN: 1109-2750</li></ul>	
<b>Harta Intelekt</b> (No Patent/No IP)		
<b>Pelajar yang di latih</b> (Nama, KP, Kod Program)	Wael Mohamed Shafer Yafooz 2008307297 CS777	
Tandatangan Ketua Projek	:	Tarikh :
Pengesahan RMI	:	Tarikh :

## 1.1 Proposed Executive Summary

FSKM or Faculty of Computer and Mathematical Sciences is a well-known faculty in UiTM. FSKM has seven academic centres, which are Computer Science, Computer Technology and Networking, System Science, Mathematics, Statistics, Actuarial Science and Quantitative Methods. In keeping with the University's mission and the Faculty's mission, faculty administration has to manage a large number of data that was kept in different format and also different databases. Since these data are in different format and different databases, problems such as: manipulating wrong or contradictory data (two data sources giving two different information); delivering wrong information to the user, due to data inconsistency; increase workload leading to over budgeting; and delay in applications delivery with direct and/or indirect consequences on the activities of the faculty. Stand-alone databases are hard to maintain and to expand because there is a general lack of understanding of how the workflows and business rules are built into them. They are also difficult to integrate with newer systems in a modern platform because of non-extensibility, incapability and less openness of underlying hardware and software.

These scenarios are not only happened in FSKM, but also common to other faculties throughout UiTM and other government agencies. This study is to investigate the advantages and disadvantages of converting stand-alone database to web-based database focusing on appropriateness, functionality, extensibility, scalability, challenges, data management and development tools. This research is to investigate the appropriateness, functionality, extensibility, scalability, challenges, data management and development tools of converting stand-alone database to web-based database. Research will also focuses on appropriateness, functionality, extensibility, scalability, challenges, data management and development tools of data conversion. Based from investigation of this research, a new conversion model for web-based database will be produced.

## **1.2 Enhanced Executive Summary**

Much research has been undertaken to work on database sharing, integration, conversion, merging and migration. In particular, database conversion has attracted researchers' attention due to the rapid change in the computer technology. There are also several tools available on the Web for free usage on handling database conversion. All of these tools are focusing on the relational database. Relational database consists of an integrated collection of logically related records. Database plays an important role in an area of computing when there is a lot of data and information to be stored and retrieved.

Today, databases are used in many disciplines such as business, education, general administration medicine and many more. Research in database works have been advanced from file management system to data warehousing with the discussion of how a database can be significantly sustainable and have the potential to be added and modified to suit the current situation and technology. In this research, a new method is proposed on doing database conversion by providing a single master database that can accept multiple databases of any type through the use of Java Database Connectivity (JDBC) and application program interface (API). The key contribution of this method is the ability to accept a single record, multiple records or the whole records of a database to convert into any other database type. Thus, any existing form of database can be integrated and updated without the need to design new database system for coping with the new technology. In this way, the old or existing databases can be used for an unlimited lifetime and a broader scope of application domains.