

DEVELOPMENT OF WEB DATABASE APPLICATION FOR
RESEARCH AND CONSULTANCY PROJECT MANAGEMENT
SYSTEM

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Abstrak

Sistem pangkalan data telahpun berkembang di dalam beberapa tahun ini. Kini, satu-satu keputusan yang dibuat dalam sesebuah organisasi perlu berdasarkan kepada satu penyimpanan data yang terurus. Data-data di dalam sesebuah organisasi dapat diuruskan dengan lebih efisien apabila ianya disimpan di dalam sebuah pangkalan data.

Kini, dengan kemudahan Internet, sistem pengurusan pangkalan data telah mengalami perubahan di mana ianya mampu diintegrasikan dengan aplikasi web dan menuju ke arah aplikasi pangkalan data berintegrasikan Internet. Organisasi-organisasi kini sedang menuju ke arah pembangunan aplikasi pangkalan data yang terkini ataupun meninggikan keupayaan sistem sedia ada, dan secara langsung menjadikan web sebagai pelantar yang strategik di dalam usaha menjadikan sebuah organisasi yang berasaskan web.

Laporan ini membincangkan rangka dan proses pembangunan sistem pangkalan data dalam membina sebuah prototaip untuk Sistem Pangkalan Data Berasaskan Web untuk Pembangunan Projek di Pusat Penyelidikan dan Perundingan (PPP), Universiti Utara Malaysia, dengan menggunakan MySQL, PHP dan Apache. Pembangunan sistem ini di rekabentuk dengan menggunakan Database Life Cycle (DBLC).

Selain dari itu, laporan projek ini membincangkan tentang hasil kajian serta isu dan cabaran dalam membangunkan sistem pangkalan data. Prototaip sistem ini telah berjaya

dibangunkan bersama-sama sebuah manual pengguna yang di bina sebagai panduan untuk pengguna.

Adalah diharapkan, prototaip sistem ini dapat disumbangkan sebagai model dan digunakan dalam mengimplimentasikan Sistem Pangkalan Data Berasaskan Web untuk PPP nanti. Adalah diharapkan juga, prototaip sistem ini dapat di bangunkan serta di pertingkatkan lagi oleh PPP, begitu juga Sekolah dan jabatan lain di UUM serta mana-mana Unit Pembangunan Projek di Institusi-institusi Pengajian Tinggi di seluruh negara.

Abstract

Database system has evolved in the recent years. Good decisions nowadays, require good information that comes from a manageable data store. Data are likely to be managed most efficiently when they are stored in a database.

The Internet has transformed database management system and put them in move towards the integrated Internet-enabled database application. Organizations are now rapidly building new database applications or reengineering existing ones to take full advantage of the web as a strategic platform in becoming Web-centric organizations.

This report discusses the database system development and framework for developing a prototype system for Project Development Web Database System for the Center for Research and Consultancy, Universiti Utara Malaysia. (CRC) that has been developed using MySQL, PHP and Apache. The system development was designed using the Database Life Cycle (DBLC) approach.

Apart from that, this project report discusses the findings and issues and challenges encountered during the development of the web database system. This prototype system was successfully being developed together with a user manual designed as a guide for the system users.

It is hoped that this prototype system will contribute as a model and used as a reference in the implementation of a Web Database System for the CRC. It is also hoped that the system prototype will be further developed and further enhanced by the CRC as well as other schools and departments in UUM or any project management units in all institutes of higher learning throughout the country.

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LIST OF ABBREVIATIONS

1.	API	Application Programming Interface
2.	CRC	Center for Research and Consultancy
3.	DBDL	Database Design Language
4.	DBLC	Database Life Cycle
5.	DBMS	Database Management System
6.	DDL	Data Definition Language
7.	DML	Data Manipulation Language
8.	FOR	Field of Research
9.	HTML	Hypertext Mark-up Language
10.	IRPA	Intensification of Research in Priority Areas
11.	IT	Information Technology
12.	OODBMS	Object Oriented Database Management System
13.	PERSIS	Personnel Information System
14.	PHP	Hypertext Pre-Processor
15.	PPP	<i>Pusat Penyelidikan dan Perundingan</i>
16.	RDBMS	Relational Database Management System
17.	SDLC	System Development Life Cycle
18.	SEO	Socio-economic Objective
19.	SQL	Structured Query Language
20.	UUM	<i>Universiti Utara Malaysia</i>

CHAPTER 1

INTRODUCTION

1.1 Introduction

Many organizations, large or small, use database processing to process and manipulate data to support their daily operation and decision-making. File-processing system is the first business information system that stored group of records in separate files. This system has several major limitations such as data separation and isolation, data duplication, application program dependency, incompatible files, and difficulty of data representation in the user's perspectives. Database technology was developed largely to overcome these limitations. (Kroenke, 1995)

Less than ten years after its completion, World Wide Web is arguably the most popular and powerful networked information system to date. The integration of the Database Management System (DBMS) into the Web environment is becoming particularly important. (Connolly et al. 1999)

SQL, which stands for Structured Query Language, is an industry standard language for creating and working with relational database. Because it is not a procedural language, it is used within DBMSes or programs written in other languages. The implementation of the SQL standard varies from one DBMS to

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