



# THEME 4

# ORGANIZATIONAL IMPROVEMENTS



# Web Based Training Information Management System (TIMS) for National Water Supply & Drainage Board

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## ABSTRACT

A web based training information management system was developed to replace the existing manual method of handling training information regarding in-house, external and overseas training at the Manpower Development & Training Division (MDTD) of National Water Supply & Drainage Board (NWSDB). This system handles collecting and analyzing training needs, nominations, overseas training details, participation details, publishing training announcements, news messages, user inquiries, course information and, several other training management requirements and link the regional support centers with MDTD. The working prototype of the system has been developed based on MySQL Database Management System, Apache web server and PHP as programming language. The system uses client-server architecture and database technologies to provide an object-oriented web-based, data-retrieval mechanism which enable secure access for NWSDB employees. The TIMS provides NWSDB staff with broader information availability, better performance, and decrease in data repetition and paperwork.

## INTRODUCTION

Information systems play a major role in achieving higher levels of efficiency and productivity in organizations. Web based information systems not only disseminates information, but also proactively interacts with users and processes of their corporate tasks to accomplish corporate goals. Thus design of web based information systems need an approach different from those for web sites that mainly provide information.

Manpower Development and Training Division of the National Water Supply and Drainage Board is the key division which provide in-house training, external training and facilitate foreign training through scholarships and overseas visits for NWSDB employees scattered island wide. This Web based training information management system of MDTD is responsible for collecting, analyzing and presenting data in various formats related to training needs, nominations, training participation and several other training management requirements. Once implemented it will replacing the existing manual methods. This system also includes decision making tools for increasing the efficiency and progress of MDTD functions. An overview of web based training information management system is shown in Figure 1.

## HIGHLIGHTS

Web based training information management system provides NWSDB employees with

- General information about MDTD training functions such as training courses, announcements, latest news, annual programme schedules, Online training calendar and FAQs, under in house, external and overseas categories
- NWSDB sectional heads get interface to submit their training needs online, nominate employees for scheduled courses online and granting privileges for training staff to analyse submitted needs and nominations as required

- NWSDDB training officers get facilities to submit employee training participation details online for programmes conducted at each Regional Support Centre (RSC) regarding in house, external and on the job categories
- Facilities to generate annual progress reports, on participation, training needs and nominations in graphical and text based
- Facilities to MDTD resource personnel to upload course materials online prior to training programmes and training staff to collect submitted course materials.

## **METHODOLOGY**

The project was carried out using evolutionary prototyping methodology which generally has an improved design quality and far closer to what the user needs. The ultimate system was developed following the stages such as requirement analysis, design, Implementation, testing and evaluation. Requirement analysis has been used to identify the aspects of the operations on training process required for web based information system. The design phase is based on the Unified Modeling Language (UML) and class diagrams. The development phase used evolutionary prototyping method and concentrated on widely deployed open source technologies and User friendly Content Management System (CMS). Rapid Application Development (RAD) approach has been adopted for the system. RAD facilitates a faster development and high quality results compared to traditional methods.

The prototype was developed using the relational database in the web environment and mainly used open source software for the purpose. Apache, open source web server, MySQL popular relational database server application and PHP a server- side cross -platform scripting language were used. This project develops using the local host architecture where web server and associated database can set up directly on the user computer upon which the content management system functions.

## **OUTCOME**

Web portal for training information management system

## **CONCLUSION**

The main purpose of developing the prototype system is to act as a system that provide web based environment for training information management at the MDTD of NWSDDB. In addition this system will eventually replace the practice of manual training information management, which leads to achieve higher efficiency in the processes such as storing, retrieving and analyzing data.

Since the system was completely developed using free and open source software, the associated cost of developing the system is minimal. Nevertheless, the system does not need any special hardware facility and installation requirements, the operation of the system can be done by making use of the available IT facilities of the organization. System improvements can be continued to cater for future demands of MDTD and TMS users.



Figure 1 - Overview of Web Based Training Information Management System