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Structure Query Language Web Manager

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Abstract:

Sql Web Management is innovative, intuitive online Database Tool and. Specifically aimed at developers developing online, Intranet and Internet database related project website, etc. Sql Web Management profiles host of features that are very much crucial. In this project we can run the all sql commands online there is no need to install the oracle or any database. We have to connect to any database online and CRUD Operations .Client just visit the Web Manager and execute the query easily.

Keywords — **Sql, database, web managements, data, server, query.**

I. INTRODUCTION

In simple, using Sql Web Management any developer with minimal knowledge can easily do the following things

- Connect to multiple databases easily
- Create databases online
- Modify databases online
- Import and export data
- Execute SQL statements online

A. *Sql Web Management's core feature*

- Login screen (connection requirements)
- SQL Editor window
- Results Window
- Syntax highlighter and help
- Saving SQL statements
- Saving output results
- Schema generation with UI
- Multiple database connections
    - MS Access
    - SQL Server
    - Oracle

- Storing multiple connection information
- Importing data
- Exporting data
- Relationship diagram between tables
- Database properties / structure details

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II. SYSTEM ANALYSIS

A. *Existing System*

The features offered by the Sql Web Management or the general day to day activities of the administrator are not available under one applications roof. The administrator has to use various tools to do achieve different tasks on different database systems. Shifting of applications between operations is time consuming and also lethargic to the user, often this makes overlooked errors and mistakes. Some of these errors may create chaotic situations, where recovering seems to be a nightmare.

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The solution to the problem is to bring a Sql Web Management with all these operations without changing the applications or tools. There exist few

tools / applications available to the administrator to do the activities mentioned in the overview. But the problem is that they are not integrated properly. Few of the   applications of platform specific, they can't run on all operating systems.

B. *Feasibility Study*

Feasibility study is conducted once the problem is clearly understood. Feasibility study is a high level capsule version of the entire system analysis and design process.   The objective is to determine quickly at a minimum expense how to solve a problem. The purpose of feasibility is not to solve the problem but to determine if the problem is worth solving.

C. *Proposed System*

The proposed system can be developed using existing technology or not. It is planned to implement the proposed system using Java with Applets JDBC and databases are the Oracle, MS-Access & SQL Server.

The organization already possesses Windows NT & Windows 2000 server with Java with Applet, JDBC & Data bases. It is evident that the necessary hardware and software are available for development and implementation of the proposed system.

D. *Economic Feasibility*

It is an evaluation of development cost weighed against the ultimate income or benefit derived from the developed system. Economic justification includes a broad range of concerns that includes cost-benefit analysis, long-term corporate income strategies, cost of resources needed for development.
The proposed system is developed using Java2.0 (JDK) Software, which is available free of cost at www.java.sun.com

III.   REQUIREMENT SPECIFICATION

According to Roger Pressman in Software Engineering

A Practitioner's Approach the requirement specification document is produced at the end of Analysis of the system. This document is a very comprehensive document & contains all the User requirements & Analysis diagrams. The Requirements are broadly divided into two groups

A. Functional Requirement

The main purpose of functional requirements within the requirement specification document is to define all the activities or operations that take place in the system. These are derived through interactions with the users of the system.

According to this system all the database statements are available in the database

B. Non Functional Requirement

It is divided into two parts given below

A. Analysis, Design & Data requirements.

The Analysis & Design phases of the system yield Data Flow Diagrams, textual analysis & Data dictionary consists of process statements showing how data is flowing from starting point to end point.

B . Constraints

These are the requirements that are not directly related to the functionality of the system. These should be considered as mandatory when the system is developed. The following Constraints were arrived at for the system

The system should be available from the user side that runs this system can access to the database over the Internet. They can change the database over the Internet access specified by them only

IV.   FUNCTION REQUIRMENT

The Sql Web Management application has been planned in somewhat different way compared to other applications. The SWM uses user parameters to do all of its activities. There is database as backend to the SWM application. But on the other hand, SWM does operate on database of user choice

and performs user requested actions on those databases and even stores data on to it.

The list of activities of Sql Web Management are carefully analysed and planned into several interwoven modules. The Prototype with spiral modal has been adapted for development of Sql Web Management in the analysis and design part. The SWM contains five major tasks, which are again subdivided into few more modules as listed below

The details of these modules are logically designed

as follows.

A. Login

Administrator, Normal User's login through the browser (by entering username and password.
Administrator – Administrator login's as Administrator or a Normal User. He can access anything in the project

Normal User - Normal Users are login through the browser. The entered username and password are checked by the administrator after that he enter to next screen
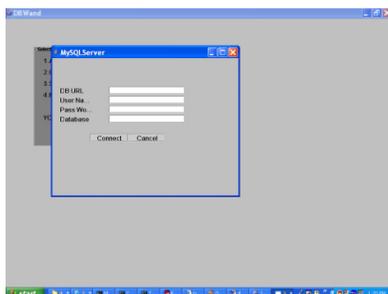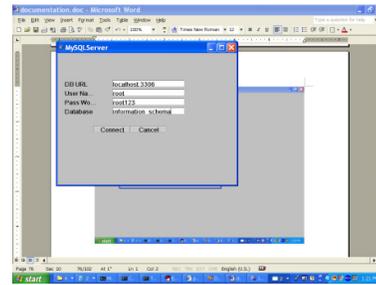

Fig Login page

Fig.2 MySQL server Connection

Fig 3. Connected to MySQL Server

Fig 4.Connection Established

B. Selection

Selection process is the one first welcomes the user by providing three options to choose. These are different database providers where the target database is going to be processed by the Sql Web Management.

MS Access - To process access database, we require DSN to be created. The user needs to enter the DSN name for the desired database. Using this 'User DSN' the program establishes the connection to the selected database.

Oracle – To process oracle database, we require three things namely, User Name, Password and Host (server) name. After the selection of the Oracle provider, user should enter the above-mentioned parameters to successfully connect to the specified database. For the connection we use ODBC / JDBC thin drivers. Once the connection is established the programmer can have full access (as per the privileges) to the database.

MS SQL Server – The processing of MS SQL Server is somewhat tricky in nature, as the behaviour of the database including the structure is different from the rest of the two. The careful usage of the ODBC / JDBC thin drivers reveals the internal structure of the MS SQL Server for further usage. Here also user has to provide the user name, password and server name for establishing a successful connection.

C. Listing

This module does a simple and routine work. It gets the database information and displays it on screen accordingly.

Find the tables under the selection – Based on the user's choice, using the connection established (as explained in the previous modules), and the selected database is analysed to get its schema and other details. From this analysis, we can get the details of the tables existing under the database, table space, or in the tree view.

List the tables in the left pane of the screen - All the tables' information from the previous module will be used to display it on the screen. The table information is so arranged in the left pane the screen in a tree view like structure for easy navigation. Further this leads to view the table data in the right side pane in a grid like structure.

D. Execution

Execution module simply executes the given query by expelling the results and status. It takes the users query formatted properly under SQL rules.

Query Execution – The top of the screen provides a big widened text box to the user to enter SQL statements. It accepts all valid SQL statements. These statements were analysed according to the SQL standards before they have been executed. The execution of these SQL statements will be done over the user-selected database. This doesn't restrict the user to successfully connect to the specified database. For the connection we use ODBC / JDBC thin drivers. Once the connection is established the programmer can have full access (as per the privileges) to the database.

After Connecting to the Oracle Database menu display all the tables and columns for each table.

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E. Export & Import

As the name suggests, this module exports as well as imports a database. This whole operation is three pronged, one for each database provider. The export and import functions for each database type are different from one another.

Exports selected database – Depending on the user selected database type (based on the provider, such as Access, SQL server, and Oracle) the required routine to export will be selected and executed. This routine generally reads the data from the different tables in that database and exports it to a file of SWM own format.
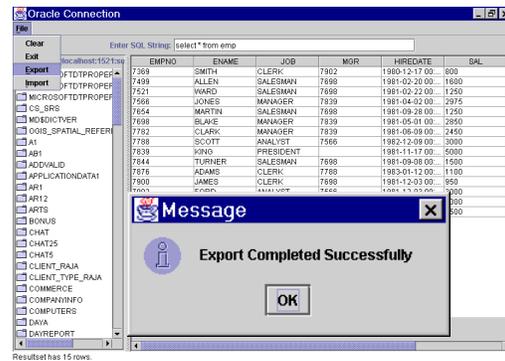

Fig5.import export data

Imports an already exported database Depending on the file selected for import, the file headers were analysed to find out what type of database it is, and where it has to be imported. After this part, the actual data from the file is read and placed in proper positions of the target database.

V. CONCLUSIONS

The system has been implemented and successfully. It meets the information requirements specified to great extent. Although the system has been designed keeping in view the present and future requirements in mind and made very flexible, there are certain limitations. Proper consideration has been given for a wide range of new enhancements in the future, throughout the development of the system.

Though this Unified database Tool is not providing complete list of tasks that one (administrator) would like to have, but this certainly fulfils majority of those. It is going to be one of the

must have tools for administrator who works on different databases on different platforms continuously. There are few more things that we are planned to add at a later date. These include

- Exchange of data between different databases
- Multiple database information viewing at a time
- Selective import and export of the data

In conclusion, we say that this Unified database Tool is a unique tool intended to help the user / administrator in his own way. It obeys all the commands that administrator issues on whatever database.

REFERENCES

[1] Java – The Complete Reference Patrick Naughton
[2] Software Engineering, An Engineering Approach by James F. Peters, Witold Pedrycz, John Wiley
[3] Advanced Programming in Java V.K.Jain, Helmet
[4] Software Engineering: A Practitioner's Approach
[5] Software Engineering principles and practice by Waman S Jawadekar, The McGraw-Hill Companies
[6] Database Programming with JDBC Hobbs.
[7] Head First design patterns By Eric Freeman, Elisabeth Freeman, Kathy Sierra, and Bert Bates.