Unified Data Access Framework

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Abstract: *Now days every organization uses sql plus tool to write sql commands in oracle database or in some other databases. As an industry norms database must be under control of database administrator, which means no other user can access the database but some times organization will give permissions to all users in that organization to access the database for some projects and also organization has to give permissions for their clients to access database but sometimes manually it is not possible. To avoid these types of problems UNIFIED DATA FRAMEWORK was introduced*

Keywords:

1. Introduction

1) User Module
2) Database level
3) Table level
4) Reports Module

1: User Module
This module tells all about users who are using UNIFIED DATABASE INTERFACE as user interface to interact with any database. While developing applications user needs to get the data from the database.
a) **Selecting Driver:** By using this function user can select any driver among type1, type2 and mysql for connecting either oracle or to mysql.
b) **DSN:** By using this function user will enter data source name which will acts as interface between driver to user account
c) **User Name & Password:** By using this functionality user can connect to any database user account by providing user name and password of that DB.

2: Database level Module
This module tells about the database, this module is categorized into the following functionalities:
a) **Structure:** This module gives the list of all tables which are present in the current/selected user. This module is used to browse and view the structure of an existing database object. It can also be used to design new database objects.

b) **Properties**
The properties functionality will gives entire information about database like database product name, product version etc. to the user.
- **SQL**
  By using this functionality, we can use and implement different kinds of SQL statements. The result of the SQL statement will be displayed immediately after executing the statement.
- **Import**
  By using this functionality any database structure along with data can be imported in this portal.
- **Export**

By using this functionality any database structure along with data can be exported from this portal.
- **Operations**
  By using this functionality user can do some operations on tables of any Database like create table, alter table, rename table and drop table.
- **Search**
  By using this functionality user can search any keywords which are related to data in database.

Disconnect: By using this functionality user can disconnect from any database connection

3: Table level Module

Structure:
It gives the list of all columns which are present in the selected table. This module is used to browse and view the structure of an existing database object. It can also be used to design new database objects
- **Browse:**
  By using Browse functionality user can change the table settings like display settings of information in the portal etc.
- **SQL:**
  By using this functionality, we can use and implement different kinds of SQL statements. The result of the SQL statement will be displayed immediately after executing the statement.
- **Insert:**
  By using this functionality user can insert data in to any table directly by giving values from user interface.
- **Export:**
  By using this functionality any database structure along with data can be exported from this portal.
- **Operations:**
  By using this functionality user can do some operations on columns of any table like alter column, rename column, drop column and empty column.
- **Search:**
  By using this functionality user can search any keywords which are related to data in database.

4: Reports Module
In this module administrator will get different types of

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reports regarding all the users who are registered in this portal.

2.1 Study of the System Workflow

To provide flexibility to the users, the interfaces have been developed that are accessible through a browser. The GUI'S at the top level have been categorized as
1. Administrative user interface
2. The operational or generic user interface

The 'administrative user interface' concentrates on the consistent information that is practically, part of the organizational activities and which needs proper authentication for the data collection. These interfaces help the administrators with all the transactional states like Data insertion, Data deletion and Date updation along with the extensive data search capabilities.

The 'operational or generic user interface' helps the end users of the system in transactions through the existing data and required services. The operational user interface also helps the ordinary users in managing their own information in a customized manner as per the included flexibilities

2.2 Input & Output Representation

Input design is a part of overall system design. The main objective during the input design is as given below:
- To produce a cost-effective method of input.
- To achieve the highest possible level of accuracy.
- To ensure that the input is acceptable and understood by the user.

Input Stages

The main input stages can be listed as below:
- Data recording
- Data transcription
- Data conversion
- Data verification
- Data control
- Data transmission
- Data validation
- Data correction

Input Types

It is necessary to determine the various types of inputs. Inputs can be categorized as follows:
- External inputs, which are prime inputs for the system.
- Internal inputs, which are user communications with the system.
- Operational, which are computer department's communications to the system?
- Interactive, which are inputs entered during a dialogue.

Input Media

At this stage choice has to be made about the input media. To conclude about the input media consideration has to be given to;
- Type of input
- Flexibility of format
- Speed
- Accuracy
- Verification methods
- Rejection rates
- Ease of correction
- Storage and handling requirements
- Security
- Easy to use
- Portability

Keeping in view the above description of the input types and input media, it can be said that most of the inputs are of the form of internal and interactive. As Input data is to be the directly keyed in by the user, the keyboard can be considered to be the most suitable input device.

Implementation:

In general are:
- External Outputs whose destination is outside the organization.
- Internal Outputs whose destination is with in organization and they are the User's main interface with the computer. Outputs from computer systems are required primarily to communicate the results of processing to users. They are also used to provide a permanent copy of the results for later consultation. The various types of outputs
- Operational outputs whose use is purely with in the computer department.
- Interface outputs, which involve the user in communicating directly with the system.

Output Definition

The outputs should be defined in terms of the following points:
- Type of the output
- Content of the output
- Format of the output
- Location of the output
- Frequency of the output
- Volume of the output
- Sequence of the output

It is not always desirable to print or display data as it is held on a computer. It should be decided as which form of the output is the most suitable.

For Example
- Will decimal points need to be inserted
- Should leading zeros be suppressed.

Output Media:

In the next stage it is to be decided that which medium is the most appropriate for the output. The main considerations when deciding about the output media are:
- The suitability for the device to the particular application.
- The need for a hard copy.
- The response time required.
- The location of the users
- The software and hardware available.

Keeping in view the above description the project is to have outputs mainly coming under the category of internal outputs. The main outputs desired according to the requirement specification are:

The outputs were needed to be generated as a hard copy and as well as queries to be viewed on the screen. Keeping in view these outputs, the format for the output is taken from the outputs, which are currently being obtained after manual processing. The standard printer is to be used as output media for hard copies.

2.3 Process Model Proposed System

SDLC (Umbrella Model):
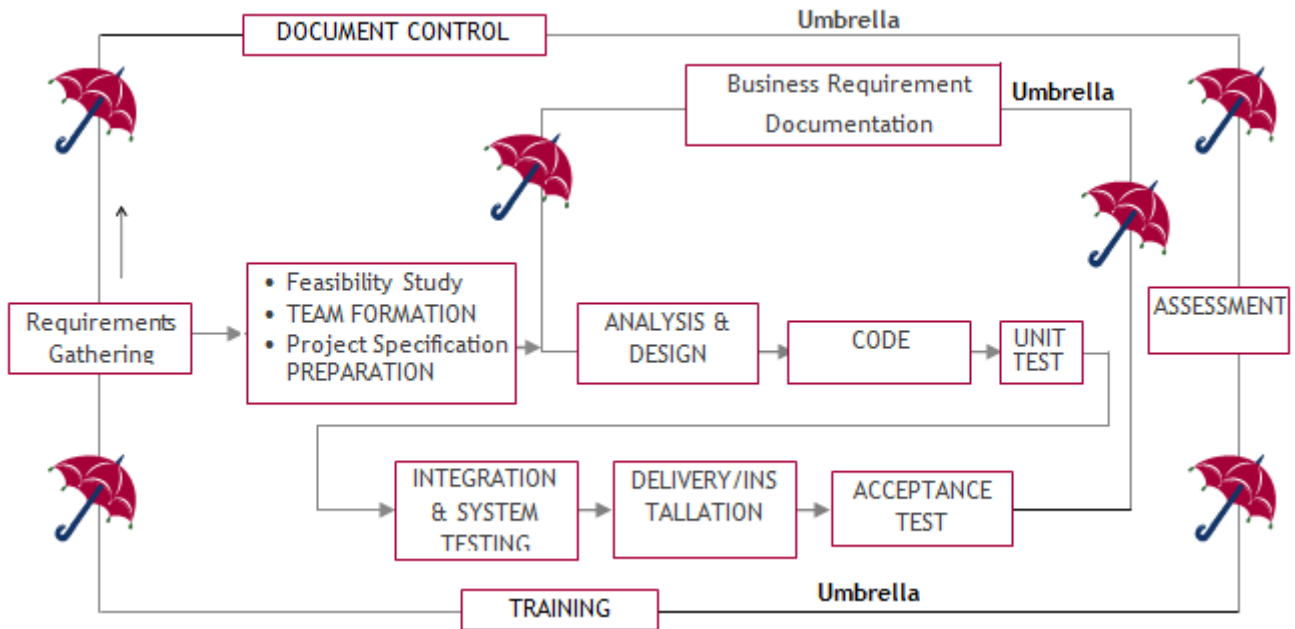
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