Jong Tai Kim

11/03/2018

Info 330

Assignment 5

Professional Database Design

Introduction

Similar to the last assignment, we are going to examine how the features found in SQL will be used professionally to design database and how stored procedure is used to mark transaction of creating, replacing updating, and deleting on database.

Question 1: Features of Professional Database Design

To build a database design professionally, we would pursue a database system that should be easy to be reproduced for different usage of database. That is, it would not be enough for us to create just a very simple table and call it done for creating database for ourselves and clients in professional jobs. For instance of relational database management system, we would normalize the tables in terms of their relations with each other; during the normalization, we would require to specify the relationship of tables by their own primary keys and others’ foreign keys by setting the constraints to the tables. Also, as we are exposed to commit mistakes, we are required to create constraints to avoid our own mistakes since we are professionally tasked to manage data system -- mistakes may cost a lot for the company if we do not take care serious on our mistakes.

In addition, as mentioned earlier, creating only simple tables of data is not enough; we would need to access the tables more than just once for our tasks. Thus, we need to create abstract layers that would be premade for specific and repeating tasks. For instance, if we want to visualize specific data of tables, we would create views that will store the presentation of views -- this will reduce the task of selecting the database every time we need to access the database. Moreover, if we need more than visualizing the database, we would use the functions and stored procedures to store generalized statement of what we need. For instance, if we want to specific but different data every time we want to access for our task, we would create parameters in our functions and/or stored procedures to specify each need for accessing data. Also, for functions and stored procedures, we can create returned values to represent the selected data very briefly.

Question 2: Transaction Statement in Stored Procedure

In stored procedures, which can store statements itself to be executed, we can even store to decide whether to begin, commit, or rollback the statement we have made in the block of the statement. One of the advantages of doing this is when there potentially are errors within our codes in the stored procedures such that we will commit the transaction in the stored procedure if there is no error and if there is an error, we will void the transaction -- voiding the transaction will help us not save our database from the erroneous statements, or from accidentally saving wrong data. That could only happen because of the feature of transaction statement. Even if we start the transaction by begin command, our codes would not be stored to the database until we commit the statement by commit command; in other words, if we catch the error within our codes, we can just omit our potential commit by rollback command. Thus, we can avoid our mistakes and/or errors in our stored procedure using transaction statement.

Summary

For this paper, we have examined the advantages of constraints, views, functions and stored procedures on designing databases and the significance of transaction to catch mistakes in the stored procedures.

Link to my blog post:

https://jongtaikim.blogspot.com/2018/11/info-330-assignment-5-document-approach.html