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IT Foundations of Database Management

Assignment 06

https://github.com/Caprica8/DBFoundations

Going Beyond the Table

# Introduction

Tables are the foundational element of a relational database, and database developers will spend a considerable amount of time planning, implementing and tweaking these tables. Thus, developers do not [1] want others messing around with their creations and [2] want to have to reinvent the wheel every time they or someone else needs to access these tables. Enter views, stored procedures and functions! They are tools that are designed to save developers time, protect their data and facilitate the ability to make changes in the future.

# A Database with a View

Developers use databases to allow database users to access data from a database but at a “virtual” distance from the real foundational table elements. A view allows the user to ask a database “show me whatcha got” without giving the user the keys to the castle. Thus views protect the developer and, in a real sense, the user from the tables being corrupted in any way.

# Different Tools for Different Purposes

While views, stored procedures and functions are similar in that they are packaged pieces of code/queries that can be reused, they differ from each other in a number of ways. An excellent explanation and summary of the similarities and differences between them is provided in response to this very question posed at Microsoft’s TechNet entitled *“Difference between View, Procedure and Function*” (sic) from way back in 2010.1 As explained in the answer, a view is designed to provide a static peek via a select statement into only those aspects of the framework of and data within a database that the developer deems safe to expose. Views can also not accept parameters or be acted upon by operations such as insert, update or delete. Stored procedures, in contrast, can accept parameters and can perform modifications on tables, but they cannot be incorporated into other queries and, like the view, cannot be acted upon by the same aforementioned operations. Finally, functions, or what are often called, User Defined Functions (UDF), are bits of encapsulated code that contain subroutines made up of Transact-SQL statements that once written and contained within a function can be reused.

# Summary

Views, stored procedures and functions represent the next step in the quest to create strong, accessible and developer/user friendly relational databases. They are, broadly speaking, code that once written can be reused and reused again to provide access to a database in a safe way that saves time for everyone involved.

1Microsoft TechNet, Difference between View, Procedure and Function <https://social.technet.microsoft.com/Forums/en-US/855a2eb3-5c36-4d44-a102-f2c30290fc7c/difference-between-view-procedure-and-function?forum=sqlexpress>, accessed on November 25, 2020.