Title

Motorcycle Management System

Program Specifications

In this assignment, you are required to build motorcycle management application, in the form of a desktop application.

The program has basic functions: login, add - update - delete motorcycle and brand 's information.

You are required to use the basic components to design interfaces, use the tabbed pane to organize motorcycle management and brand management on the one screen.

The Microsoft SQL Server must be used to store the database.

Program organization must clearly separate functions according to **MVC model.**

Database name: MotorcycleManagement

TblUser

Field Name	Type
userID	varchar(10) (Primary Key)
fullName	nvarchar(50)
password	varchar(50)
status	bit

TblBrand

Field Name	Type
brandID	varchar(10) (Primary Key)
brandName	nvarchar(50)
country	nvarchar(50)
description	nvarchar(200)

TblBike

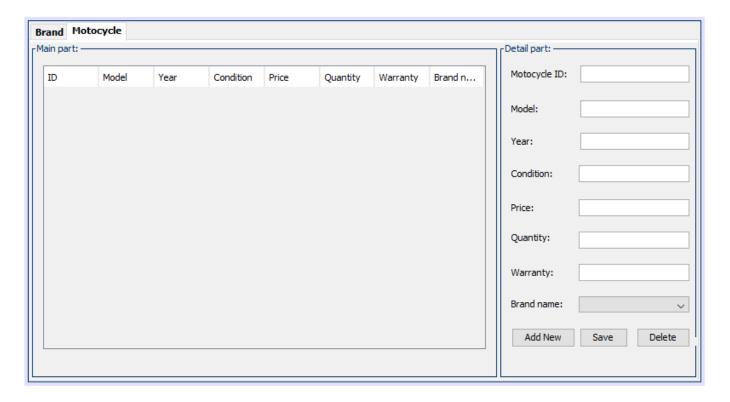| Field Name	Type
motocycleID	varchar(10) (Primary Key)
model	nvarchar(50)
year	datetime
condition	varchar(50)
price	float
quantity	integer
warranty	nvarchar(50)
brandID	varchar(10) (Foreign Key)

Features:

This system contains the following functions:

- **Function 1: Login - 50 LOC**
  - o   In order to access the motorcycle and brand management, an authentication is required.

  - o   The actor enters userID and password,

    - • The function checks if the userID with the password is in the available user list, then grant the access permission.

- Otherwise, a message would appear notify that user is not found.
  - o If login is successful, then system goes directly to the management screen.

- **Function 2: Display brand – 50 LOC**
  - o The screen is divided into 2 parts: main information and detailed information.

    - Main part: this part lists all available categories with their information (brandID, brand name, country, description) in the system.

    - Detailed part: when you click a row on the table, the details of the respective brand are displayed some information such as brandID (disable), brand name, country and description.

      - In this detailed part, three buttons are shown to perform following functions such as , Add new, Save and Delete.

      - The following sample GUI is shown as

- **Function 3: Add new brand – 50 LOC**
  - o The user presses the Add New button to clear the information at detailed part, and system preparies for new data entry.

  - o The user inputs new information of brand. Then, user clicks the Save button.

  - o The program checks the validity of data

    - If data is not valid then display an error message

    - Otherwise, system inserts new brand into the database.

  - o The brand table must be refreshed after new data has been successfully inserted.

- **Function 4: Update brand – 50 LOC**
  - o The user clicks on the brand that she wants to modify on the brand table.

  - o The details of the respective brand are displayed.

  - o The user changes the information of brand (not allow modify the brandID). Then, user clicks the Save button.

  - o The program checks the validity of data

    - If data is not valid then display an error message

    - Otherwise, system updates brand information.

  - o The brand table must be refreshed after data has been successfully updated.

- **Function 5: Delete brand– 50 LOC**
  - o The user clicks on the brand that she wants to delete on the brand table. Then, user clicks the Delete button.

  - o The program must display a message to confirm the deletion.

    - If the user confirms, system will delete the selected brand.

  - o The brand table must be refreshed after data has been successfully deleted.

  - o **Note**: if the selected brand is containing at least one motorcycle, system cannot delete it.

- **Function 6: Display motorcycles – 100 LOC**
  - o The screen is divided into 2 parts: main information and detailed information.

    - Main part: this part shows all available motorcycles with their information (motorcycleID, model, year, condition, price, quantity, warranty and brand name)

    - Detailed part:

      - When user clicks a row on the table, the details of the respective motorcycle are displayed some information such as motocycleID (disable), model, year, condition, price, quantity, warranty and brand name.

      - The brands are displayed in a combo box (choice) component.

      - All available are loaded into the brand combo box as Brand ID – Brand name format.

      - In this detailed part, three buttons are shown to perform following functions such as Add new, Save and Delete.

- **Function 7: Add new motorcycle – 50 LOC**
  - o The user presses the Add New button to clear the information at detailed part and system prepares for new data entry.

  - o The user inputs new information motorcycle. Then, user clicks Save button.

  - o The program checks the validity of data

- If data is not valid then display an error message

- Otherwise, system will insert new motocycle into the database.

  o The motorcycle table must be refreshed after new data has been successfully inserted.

- **Function 8: Update motorcycle – 50 LOC**
  o The user clicks on the motorcycle that she wants to modify on the motorcycle table.

  o The details of the respective motorcycle are displayed.

  o The user changes the information of the motorcycle (not allow modify the motorcycleID). Then, user clicks the Save button.

  o The program checks the validity of data

  - If data is not valid then display an error message

  - Otherwise system will update motorcycle information.

  o The motorcycle table must be refreshed after data has been successfully updated.

- **Function 9: Delete motorcycle – 50 LOC**
  o The user clicks on the motorcycle that she wants to delete on the motocycle table. Then, user clicks the Delete button.

  o The program must display a message to confirm the deletion.

  - If the user confirms, system will delete the selected motorcycle.

  o The motorcycle table must be refreshed after data has been successfully deleted.

- ❖ **The above specifications are only basic information; you must perform a requirements analysis step and build the application according to real requirements.**
- ❖ **The lecturer will explain the requirement only once on the first slot of the assignment.**