Fritz Ivy T. Lopez

Database Search

Database programming is one of the most common uses of Visual Basic. For the purpose of this study, Microsoft Access has been utilized.

For reasons of security, an Authentication part has been integrated into the program. Before anyone can have access to the parking information, one must first input a username and a password. Visual Basic then searches the database for the validity of the entered data. If the input values are valid, then the user is allowed to use the program's utilities.

Once inside the program, the user can view all the parking slots as well as their corresponding status—occupied or unoccupied. The user may also click on the List option to view the plate numbers of the parked cars, the student number of their owners, and the date and time the vehicles entered the parking area. These information are retrieved from a table in the database file that Visual Basic is handling.

Every ten seconds, the program checks if there is a change in the status of the slots and reflects it to the monitor. At the same time, CueCat is always ready for reading and decrypting a new entry. If there is a change in the student number that has been read, the program detects a new input/user. Visual Basic then verifies from the database if the student number is a registered student then checks if the student owns any vehicle. If the student number is not registered, CueCat sends a high output to pin number 3. The program then checks if the student has already parked a car. If so, then the student's number is deleted from the list of parked cars. If not, then the student is added to the list of those who have parked.

The Database

The following are the tables that were created in Microsoft Access to store information:

- Authenticate – contains all the user names as well as their corresponding passwords.
- StudentInfo - contains the student name and student number that may enter the parking area
- RegInfo   - contains the student number and the corresponding registered plate number. This has been made as a different table for future expansion of the automated parking to automatically detect a car with its plate number.   Thus, there is a need for this to be separate so that multiple plate numbers may be associated with a single student.

- Entered – contains the student number, plate number, time entered, and date entered of the parked cars. The inclusion of only the student number is for the students' security.

Register the Database with ODBC

It is necessary that the database be registered with ODBC. Open Database Connectivity (ODBC) is a widely accepted application-programming interface for database access. The user will give a name for the data source. This data source name (DSN) is the one referred to by the application in Visual Basic.

To register the data source by using ODBC

1. Open the Control Panel and double click the ODBC icon.
2. In the User Data Sources dialog box, click on dBase Files under name and Microsoft dBase Driver (*.dbf) under drivers. Click on Add. The Create New Data Source dialog box appears.
3. Choose the driver you want to use with your database, in this case, Microsoft Access, and click Finish. The ODBC Microsoft Access Setup dialog appears.
4. In the Data Source Name box, type ParkingFinal. This is the same name that Visual Basic is referring to in the program to point to the database that is being used.
5. Optionally, enter a description for the database.
6. In the Database group box, click the select button and then navigate to the location of the folder containing ParkingCode. mdb
7. Click OK to select the database.
8. Click OK to exit the Data Sources dialog and ODBC Setup dialog.