BOOKSHOP AUTOMATION

Project by

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University of Engineering & Management

Subject: Software Tools Using VB 6.0

Semester: 4th

CERTIFICATE

*This is to certify that the Project entitled "***BookShop Automation***", being submitted by* **Somdeep Jana** *and* **Soumodip Roy** *in partial fulfillment for the award of degree of Bachelor of Technology in Computer science Engineering is a record of detailed work carried out under the guidance, during the academic year* ***2018*** *and it has been found worthy of acceptance according to the requirements of the university.*

Faculty Name

Kaustuv Bhattacharjee

Subarna Sen

ACKNOWLEDGEMENTS

We are very much thankful to our loving Parents and Faculty for their care and responsibility in helping us to achieve this work done. We are also greatly indebted to **UEMKOLKATA** *that has provided a healthy environment to drive us to achieve our ambitions and goals.*

Place: UEM-Kolkata
Date: 01/04/2019

TABLE OF CONTENTS

Introduction

It is an offline application where the employees can manage their book inventory, check information about books and check whether they are available in to stock or not. This software is developed to maintain records of sales, purchase and staff records. User just have to interact with the system for providing certain info to the software and software will manage the records itself. The user interface is very friendly and descriptive. Anyone will be able to use the system after a short demonstration.

Objective

As a software developer our main objective is to build a system that will manage a junk of data with no error and that can easily be accessible by any user. The system will have a simplest possible UI so anyone one can use it and the operation will be easy to understand so it will take less time to use it in any environment.

Project Environment

To build this software first we have to setup a favorable environment for testing and developing flawlessly. Below we list up The Hardware and software environment.

Hardware Environment:

CPU	:	Ryzen 5 2600X 3.6 GHz
RAM	:	2 x 8 GB 3200 MHz
Storage	:	250 GB NVMeM.2 SSD
GPU	:	RTX 2070 8GB GDDR6

Software Environment:

OS	:	Windows 10 Build 17763
DevSoft	:	MS Visual Studio 2017
Database	:	MS Access 2007

Running Requirement:

CPU	:	Dual Core 1.4 GHz or Higher
RAM	:	2 GB or more
Storage	:	at least 1 GB free storage
OS	:	Windows 7 or Higher
Supporting:		MS Access 2007, MS .Net 3.6

Software Development

There are many steps involve in development of this software. The very first step is to creating the project file in Visual Studio.

Creating Project:

1. *Open The Visual Studio*
2. *Click File-> New-> Project*
3. *Go to Visual Basic-> Windows Desktop-> Windows Form App.*
4. *Set name BookShop the OK*

Database Preparation:

We use MS Access Database for easy to use and its ability to access this database locally. Both the databases are saved inside the "<Project Folder>/bin/Debug/Database". Two Databases are described below.

Database: [BookData2], [PurchaseData]

No.	Field Name	Data Type
1.	isbn	Numbers
2.	Name	Text
3.	Publication	Text
4.	Edition	Text
5.	Subject	Text
6.	DateOfEntry	Date/Time
7.	Avalable	Number
8.	Price	Currency

Forms & Controls Design

After preparing this things now it's time to design all the form and putting all the Controls in it.

Below we will discuss all the Forms, Applied controls and their changed properties.

Form 1:

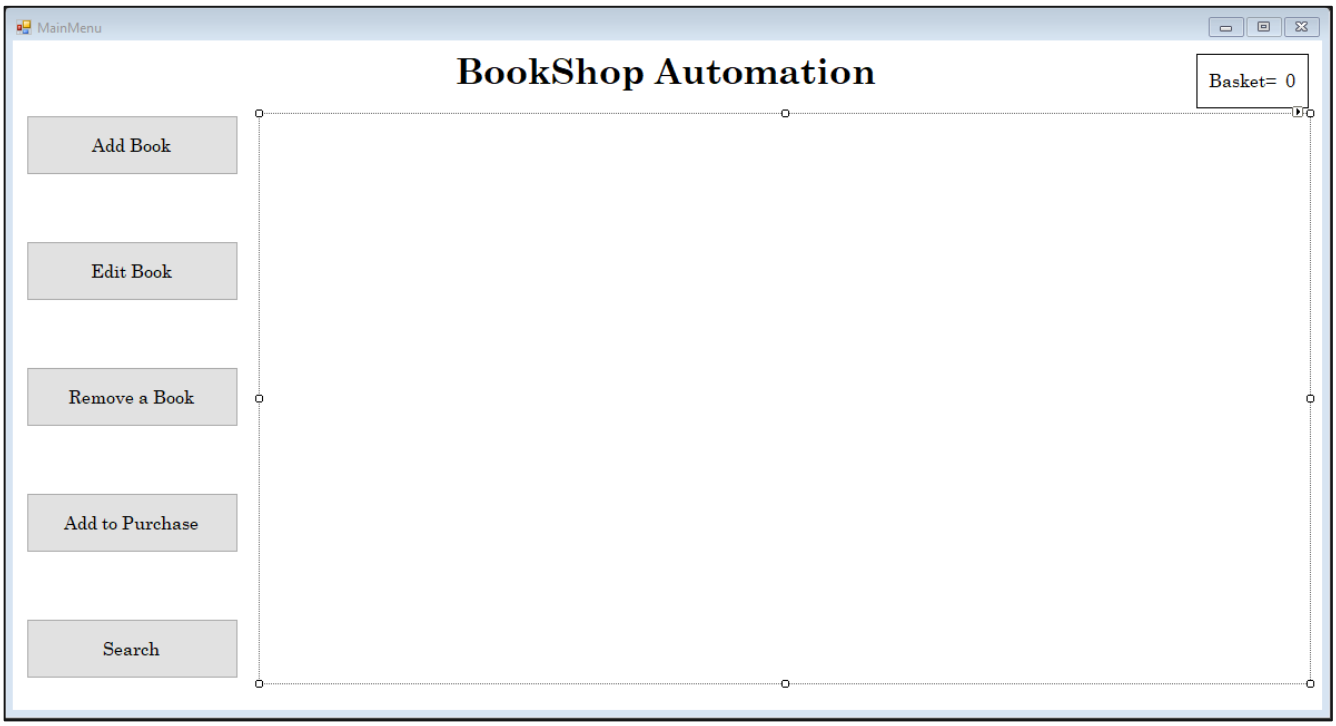
[Changed Properties]

1. **Name** : Main
2. **Text** : Main Menu
3. **BackColor** : White
4. **StartPosition** : Center Screen
5. **MaximizeBox** : False

[Added Controls]

1. **Button x 6** : Name/Text(Add Book/ AddBookButton, Edit Book/ EditBookButton, Remove Book/ RemoveBookButton, Add Purchase/ AddPurchaseButton, Search/ SearchButton, Basket= 0/ BasketButton)
2. **DataGridView** : Name(BookList)
3. **Lable** : Name/Text(HeadingLable/ BookShop Automation)

[Design View]



Form 2:

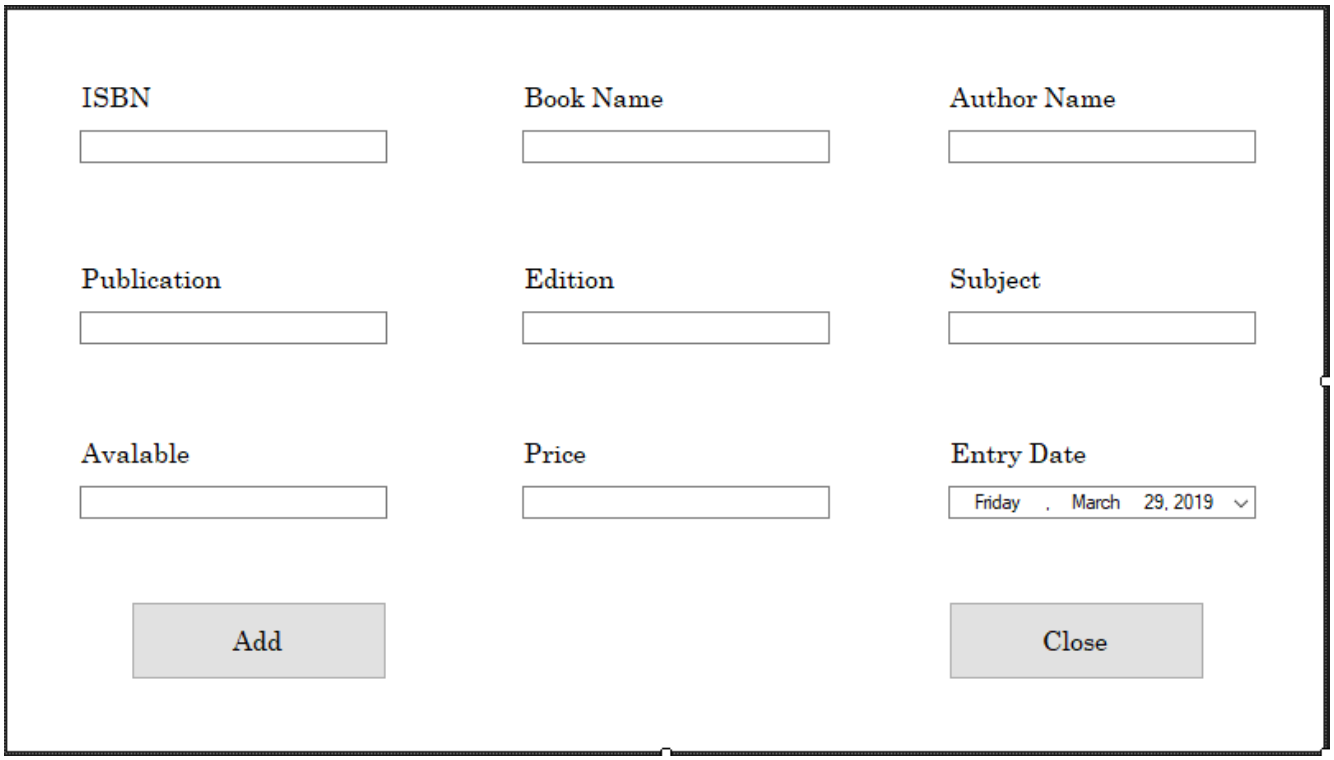
[Changed Properties]

1. **Name** : AddBookForm
2. **Text** : Add Book
3. **BackColor** : White
4. **StartPosition** : Center Screen
5. **FormBorderStyle** : False

[Added Controls]

1. **Button x 2** : Name/Text(AddFormButton/ Add, CloseBookFormButton/ Close)
2. **TextBox x 5** : Name(isbnTextBox, NameTextBox, AuthorTextBox, PublicationTextBox, EdititonTextBox, SubjectTextBox, AvalableTextBox, PriceTextBox)
3. **DateTime** : Name(EntryDate)
4. **Lable x 6** : Text(ISBN, Book Name, Author Name, Publication, Edition, Subject, Avalable, Price, Entry Date)

[Design View]



Form 3:

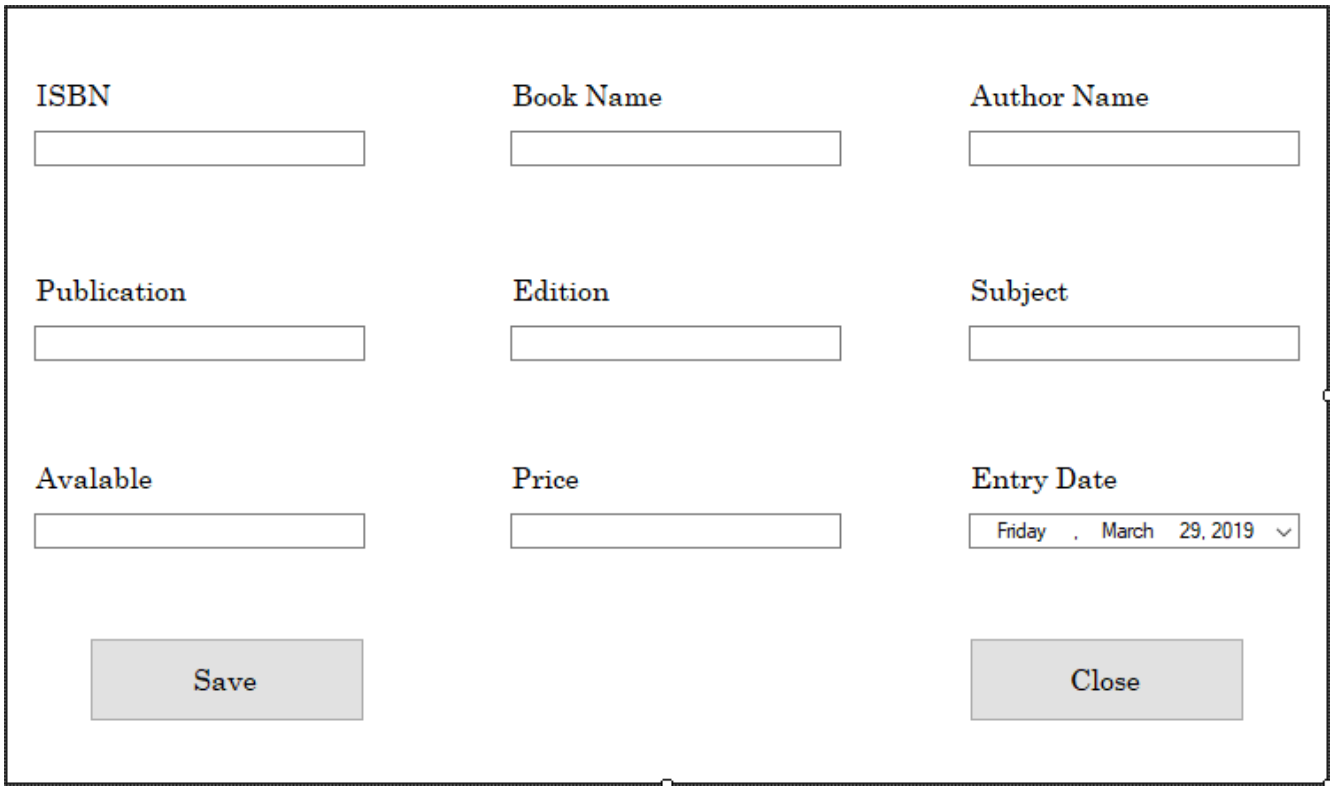
[Changed Properties]

1. **Name** : EditBookForm
2. **Text** : Edit Book
3. **BackColor** : White
4. **StartPosition** : Center Screen
5. **FormBorderStyle** : False

[Added Controls]

1. **Button x 2** : Name/Text(EditFormButton/ Save, CloseEditFormButton/ Close)
2. **TextBox x 5** : Name(isbnTextBox, NameTextBox, AuthorTextBox, PublicationTextBox, EdititonTextBox, SubjectTextBox, AvalableTextBox, PriceTextBox)
3. **DateTime** : Name(EntryDate)
4. **Lable x 6** : Text(ISBN, Book Name, Author Name, Publication, Edition, Subject, Avalable, Price, Entry Date)

[Design View]



Form 4:

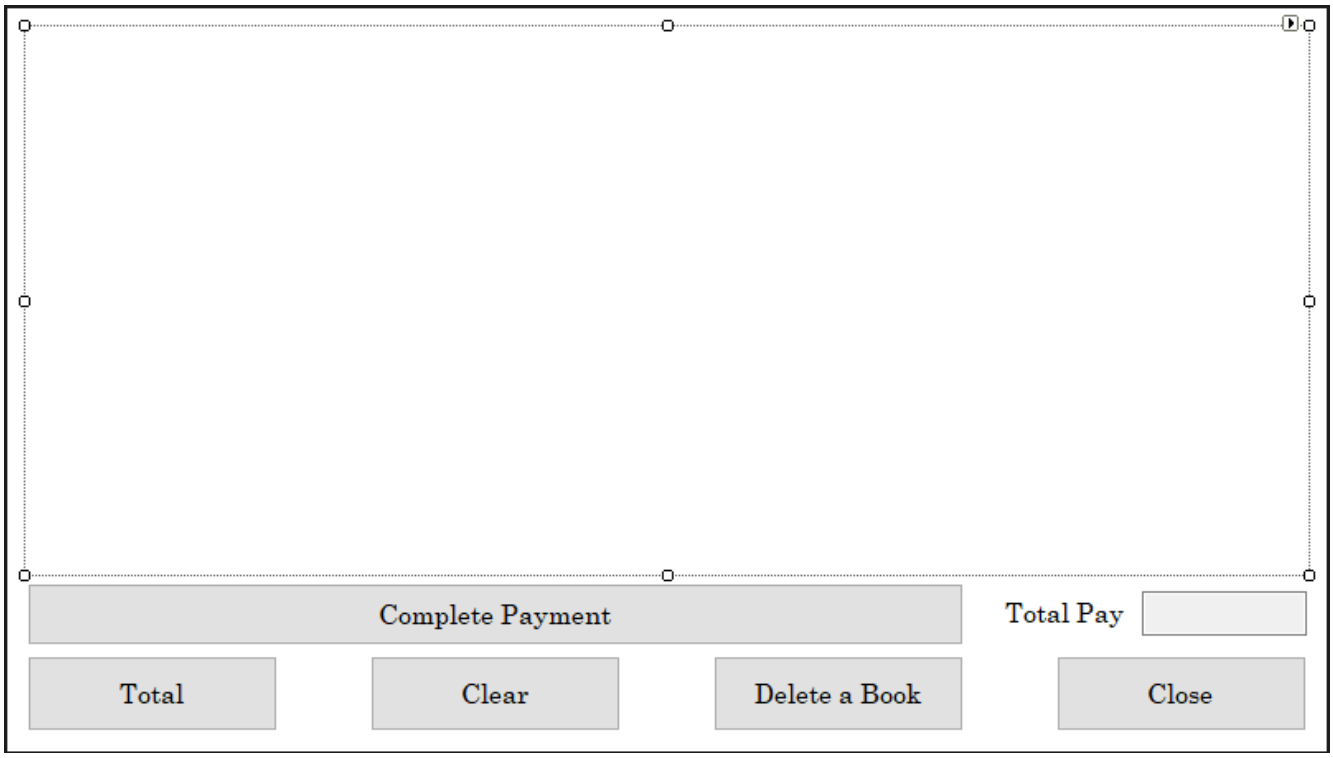
[Changed Properties]

1. **Name** : PurchaseForm
2. **Text** : Purchase Book
3. **BackColor** : White
4. **StartPosition** : Center Screen
5. **FormBorderStyle** : False

[Added Controls]

1. **Button x 5** : Name/Text(TotalButton/ Total, ClearButton/ Clear, DeleteButton/ Delete a Book, ClosePurchaseButton/ Close, CompletePay/ Complete Payment)
2. **DataGridview** : Name(PurchaseList)

[Design View]



Form 5:

[Changed Properties]

1. **Name** : SearchBookForm
2. **Text** : Search Book
3. **BackColor** : White
4. **StartPosition** : Center Screen
5. **FormBorderStyle** : False

[Added Controls]

1. **Button x 2** : Name/Text(SelectButton/ Select, CloseButton/ Close)
2. **TextBox** : Name(SearchTextBox)
3. **ComboBox** : Name(DomainComboBox)
4. **Lable x 2** : Text(Search, Domain)
5. **DataGridview** : Name(SearchList)

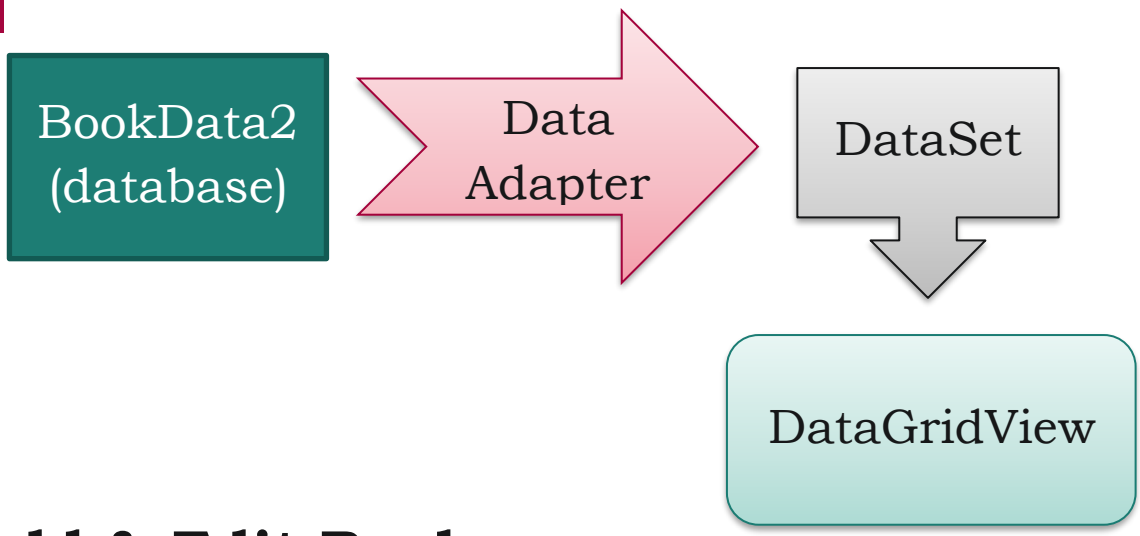
[Design View]

Operational Logic:

Every Program is written upon a specific logic. It describes how the data is being collected, process, transfer, store and manipulated. All this logics are described below.

Book Database View:

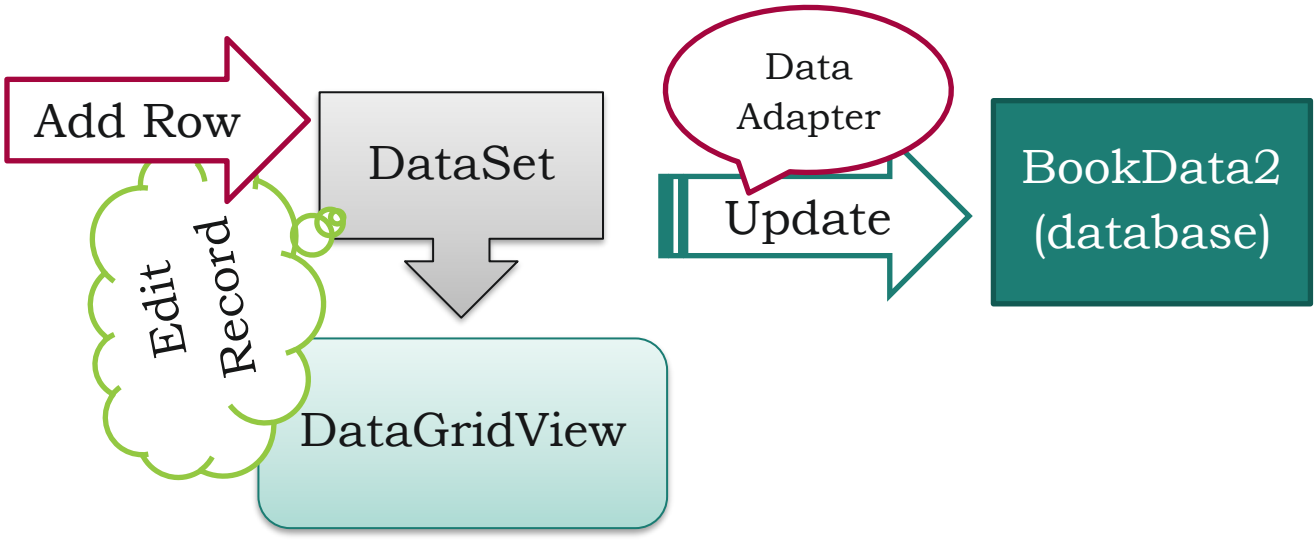
DtataGridView present in Main Menu form is used to view the data. The database BookData2 holds all the Books Present in the inventory. Below is the visual description of the process.



Add & Edit Book:

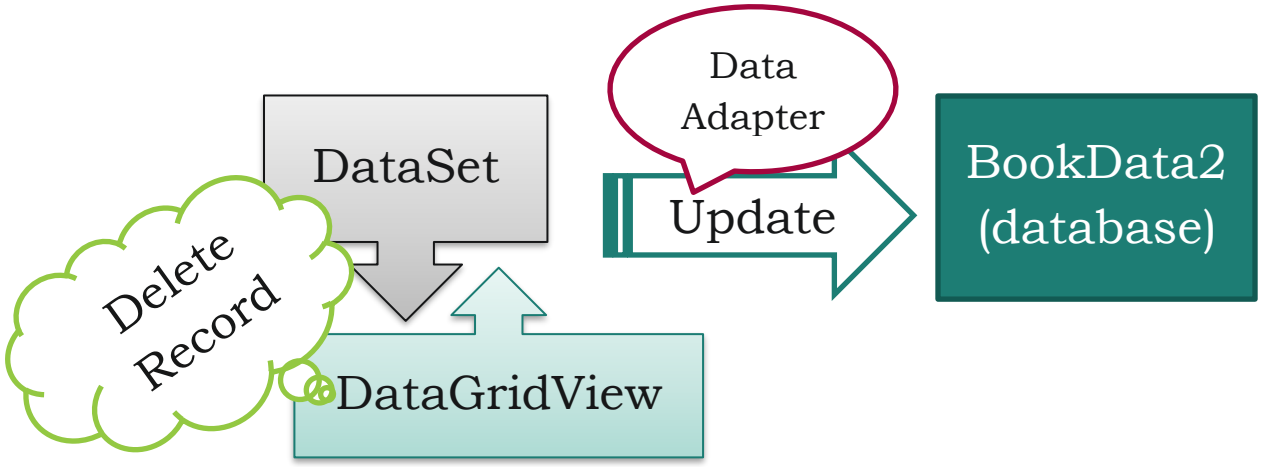
The DataGridView is connected to the DataSet so any changes made to the DataSet will be visible to the DataGridView but to save the changes made to the dataSet we have to use Update Property

We have to use add Property to add a new row in Database and incase of edit we can just change the value by specifying DataSet row and Column number. The Moment we made changes to the DataSet, it will be visible on the DataGridView.



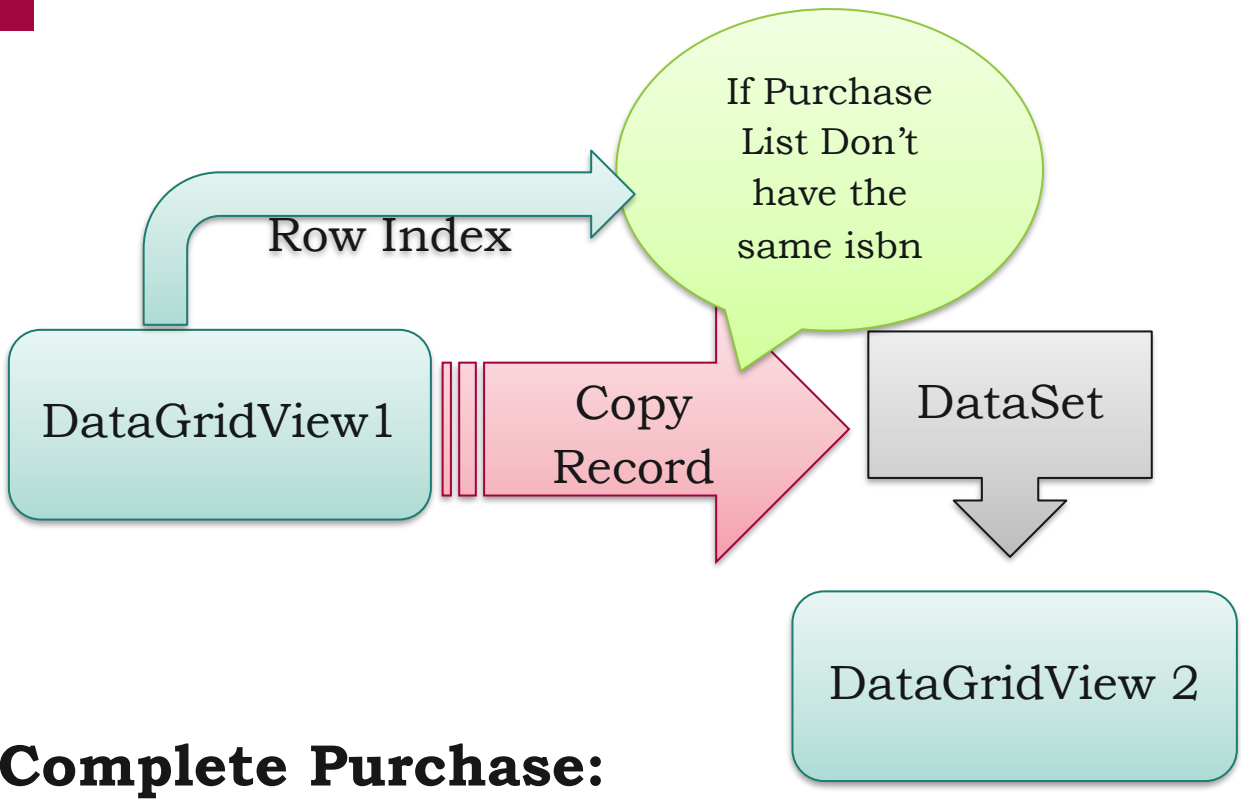
Delete Book:

When DataGridView is connected with DataSet we cannot make changes to the DataGridView hoping it will change the DataSet but if we want to remove a record we can directly delete it form DataGridView. It will change the DataSet accordingly and by using the update property again we can save the changes to the database also.



Add To Purchase:

For performing the add to purchase operation we just get the selected row index from BookList DataGridView then copy everything present on that index into another dataset which is connected with another database and DataGridView. But this whole operation will only work if isbn of the book selected is not present in the purchase dataset. A if statement will perform this operation.



Complete Purchase:

Here we compare every data present inside the two DataGridView and price column on the PurchaseList DataGridView is multiplied by its Quantity. Then if any record quantity in the BookList DataGridView is zero then that row is deleted.

Search Book:

Here we use simple SQL search query and update the DataSet with the result returned from query. This DataSet is connected with a DataGridView so any record present in this DataSet will be visible to the user through DataGridView.

Negative Conditions:

While developing a software one have to remember all the negative conditions possible in a software running. Some of this negative conditions are discussed below.

1. *While adding or editing Book Data one cannot insert any Character inside isbn, available quantity and price TextBox.*
2. *If any field of the adding and deleting form is remain blank then that data cannot be stored inside database until user input all the data.*
3. *While adding data if same isbn number is already present inside the database then that data cannot be save inside the database.*
4. *While adding a book to the purchase list if someone edit or delete a book before completing the purchase the it will create error so the add, edit, delete button will be disable if the purchase list is created.*

If all this Negative conditions are not taken care of primarily then it may cause some problem while running because of logical issue like inserting two record inside database with same key which should be unique for all record.

Conclusion

BookShop Automation system is an attempt to overcome the present in efficient and time consuming process of locating reserving and purchasing quality reading materials available in the shop. Through automated book shop solution, provide an easy way of searching reserving and purchasing of books. It's worth analyzing and identifying the benefits as it would directly influence the productivity of the shop. It is a systematic way of managing not just Book Inventory but Pharmacy Shop, Flight attendant system, Account Management system also. The general logic behind managing data of all this fields is nearly the same just the amount of data, data manipulation, data type etc. are deferent.

So this software give a general idea of operating specific data Management software.

Future Scope

This software can be easily implemented under various situations. Any education institute can make use of it for providing information about author, content of the available books in their library. Modifications can be easily done according to requirements and when necessary. It can be used in any type of Book Shop for managing all the sales and purchased activities and managing the data records related to Book house.

So some modification of this software will be recording all the past transactions, maintaining a customer records, give special offer to specific customers according to their past records, improving the security so only employs can access this software etc.

References

To make this project we gather lots of information from many places and in this section we like to acknowledge all of their helps. All the information is with the author's permission.

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