Automation of Library Resources Using Visual Basic 6.0 in a Polytechnic College Library

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ABSTRACT: *Library is a fast growing organism. The ancient methods of maintaining it are no longer dynamic and efficient. For expeditious retrieval and dissemination of information and better service for the clientele, application of modern techniques has become absolutely indispensable. A properly computerized library will help its users with quick and prompt services. Library automation refers to mechanization of library housekeeping operations predominantly by computerization. The most commonly known house-keeping operations are acquisition control, serials control, cataloguing, and classification and circulation control. This paper seeks to address this issue.*

1. Introduction

Visual Basic 6.0 is a sophisticated and powerful database management system. Visual Basic 6.0 runs on all IBM PC's and compatible machines. It can run on a single user, stand-alone machine or a multiple user Local Area Network (LAN).

Components of Visual Basic 6.0 are as follows:

1. File system

2. RQBE (Relational Query By Example)

3. The Screen Builder

4. The Report Writer

5. Label Designer

6. Menu Builder

7. The Project Manager.

2. Objectives

The objectives or functions of the system can broadly classified as follows:-

1. To provide information about the fund allotted, fund utilised and the balance still remaining for future use.

2. To provide information about the vendor -his name, address, etc.

3. To know the total cost of documents supplied by a particular vendor.

4. To know overdue documents which had already been ordered so that reminder can be sent to concerned vendor.

5. To give information about quantity of documents received, price of each document and quantity returned.

3. Methodology

In the introductory part of this work, several reasons for computerizing the library activities were given. The major factor for computerization as f compared with manual processing is the considerable saving in effort, time and resource.

In this chapter an attempt has been made towards finding ways and means to automate the acquisitions section of the Muthiah polytechnic college . The ever growing use of computers in almost all the areas of human activities and its special impact on information technology made me to take up this small step in a challenging field of automation.

The decision to select this topic was influenced by observing some of the deficiencies that exists in the manual system such as

1. Delay in getting the information about availability of a particular book.

2. How many documents were supplied by a particular vendor on a particular date.

3. Maintaining vendors information.

4. How much fund was allotted and how much has been utilised etc.,

The process of information storage, retrieval and other related activities becomes faster and more complex due to the advent of micro computer, personal computers, and many application software packages.

The traditional manual information processing system are gradually becoming outdated. Naturally, the information professionals have to switch over the computerize their library functions such as acquisition control, circulation controls etc., ln this chapter an attempt is made to design a system for controlling the acquisition functions of the library in order to cope up with scientific and, technological revolution. The underlying thought behind this is that micro-computers are effectively being used to computerize the acquisition section of the library to ensure library statistics, to give vendor information, information about fund alloted and the fund utilised.

Summing up, the aim of this study is to design and develop a software system for the automation of major day to day fun~tions of acquisition section of Annamalai University Library.

3.1 How to Start with Visual Basic 6.0
We must have configuration systems file in the root directory. It should have the following two lines.

1. Files = 40

2. Buffer = 20

The files = 40 means commands about simultaneous use of 40 fields which includes the Visual Basic 6.0 program files, databases, and command files. This lets us have the advantage of Visual Basic 6.0 ability to have an application work side by side with to different databases in addition in program files.

3.2 Visual Basic 6.0 Limitations and Capabllities

Visual Basic 6.0 has the following limitations and capabilitie:

Description	Capabilities/ Limitations
Maximum	-
Fields per Record	255
Character per Record	4000
Record per Database	1 billion
Character per character field	254
Databases operation at one line	25
Indexes operation at one line	25

Visual Basic 6.0 has a menu driven interface which gives the invoice user a great deal of convenience in creating and handling databases. It facilitates the data, as it is based on Rush move technology.

The programs allows to create, update, delete and print a database in the required format we want it to be. It allows to write command files, perform mathematical calculations, and produce many kinds of screen or printed output.

3.3 System Requirements

The Visual Basic 6.0 2.5 works with PC and MS-DOS operating system, and also requires an IBM PC, XT,AT or compatible micro computer having 521K or more RAM. System should have one floppy disc drive and a hard disk. Visual Basic 6.0 new revision works under windows.

3.4 System Study

Information systems and services assists all users such as students, faculty members, Research scholars, etc in different ways. System at present consists of works such as:-

i) Book selection

ii) Book Ordering

iii) Book Accessioning

iv) Bill Passing

v) Sending Reminder

vi) Canceling Order

vii) Fund Estimation

viii) Vendor Selection This process involves:

    a) Addition

    b) Deletion

    c) Modification

4. Manual System

• **Book Selection and Ordering:** Is made by the Faculty members of each department. After selection, the fund allocation and the existing status of fund is checked and sent for ordering. The vendor selected for this order may be specialized in subjects, he should be prompt in response to the order and discount may comparatively below.

• **Books Accessional and Bill Passing:** After receiving the books ordered, it is checked for its price, Edition and other details, then a unique number called Accessional Number (Acc.No) is assigned and the set of books received along with the bill is sent for payment. The cheque will be directly sent to the vendors from the Administrative office.

• **Reminder and Cancel of Order:** The vendors are given a period of one month time for the delivery, if not received, reminder letter is sent to him/her. If there is no any response. then the order will be cancelled, else it will be kept in consideration depending upon the vendor's Request.

• **Fund:** Funds are allocated from different sources, such as University Grants Commission (U.G.C) , ICSSR, etc. This is utilized as per budget allocation for the year.

5. Analysis of Proposed System

5.1 Acquisition Section
Acquisition is defined as the discovers, searching, selection, ordering and receiving all kinds of library materials whether in the form of books, journals, films, newspapers, pamphlets or microforms.

Acquisition related to the building up of the library collection on the basis of which all the services are organised. The main objective of an acquisition section is to locate and procure documents of relevance to its users, manage and control the funds allocated for this purpose.

5.2 Designing Data Files
The below points should be considered in advance while designing Data Files:

i) The files to be maintained

ii) Data elements in the records of each file

iii) Record format

To perform the above mentioned functions, we may have to maintain at least the following files:-

1. Acquis

2. Vendor

3. Fund

4. Report File

The order file contains minimum information required to process an order related to a document and the accession file contains complete information regarding the documents which are available in the library. In order to have as many data elements as possible in a record, we can adopt a fixed cum variable field format.

5.3 Variable Data Fields
The variable data fields consist of a serious of variables (data elements). Each of these fields may begin with the field or sub field indicators.

5.4 Fund File
Information in the fund file contains the following:-

i) Total amount available for the year

ii) Amount spent for different types of documents (viz Monographs, journals, newspapers/magazines, reports, etc)

iii) Amount spent for different departments

5.5 Vendor File
The vendor file contains the following information:-

i) Vendor Code

ii) Title Code

iii) Vendor's Address, City, Pin and Phone if any

5.6 Acquisation File
The acquisation file contains information such as:-

i) Author 1 and Author 2

ii) Publisher

iii) Edition

iv) Volumes

v) Year of Publication

vi) Place of publication, etc.

This is master file of the database.

5.7 System Design
System analysis and design is very much necessary to initiate a change in the environment of information processing of an organisation. It may involve computerizing a manual system or initiating a change in the existing computerized system. Any effort that is directed towards analysis 'and assessment of an existing process, leading to its refinement or modification may be termed as system analysis. It helps to determine aims, objectives, goals and the various means of achieving those objectives, etc. On the other hand, system design is concerned with raising or creating the structure of the system concerned.

5.8 Problems in System Designing
The entire master file is to be designed before the program begins. The file designer should be able to tell how much data can be extracted from the existing files.

The cost of creating data in a computer is enormous. When a user wants to add a field in a record, the labour and time will be costly. It ought to have been decided earlier in systems designing stage

5.9 Database File Structure
The word "CREATE" is typed in order to create a new database next to the dot prompt and then the RETURN key is pressed. The video display unit of the computer displays a message "Enter the name of the new file". The database file is created with a name "ACQUIS". Then the field name, type and the width are entered as designed below.

Under database files structure, there is also another file structure called vendor, Here also the same procedure used in the creation of a new file "ACQUIS" is used but the filename is different with that one of "ACQUIS", The word "CREATE" is typed in order to create another new database and the RETURN key is pressed. The screen of the computer displays a message". Enter the name of a new file" and the new file is created with a name "VENDOR". The different Field name, Type and the width are a gain entered as designed below.

Field	Field Name	Type	Width
1	TITLE	C	60
2	TITLE CODE	C	6
3	AUTHOR 1	C	15
4	AUTHOR 2	C	15
5	PUBLISHER	C	40
6	EDITION	C	10
7	VOLUME	N	2
8	YEAR OF PUBN	N	4
9	PLACEOFPUBN	C	10
10	ISBN	C	15
11	ISSN	C	15
12	QTYREQUEST	N	15
13	QTYRECEIVED	N	3
14	PRICE	C	6
15	DOCMNTTYPE	C	1
16	PAGE1	C	5
17	PAGE2	N	4
18	SUBJECT	C	22
19	ACCNO	N	10
20	CLASSNO	C	13
21	BOOKNO	C	5

6. Conclusion and Suggestions

In this research work, a sincere attempt has been made towards finding out ways and means for a automating the activities of the acquisition section of the Muthiah Polytechnic Library. Using of computers in acquisition control system facilitates the accuracy and efficiency of the work involved, the speed of the work and updating the aquisition control system.

The objective of this study is to use the Visual Basic 6.0 software system for the automation of the major day to day activities of the acquisition section of the Muthiah Polytechnic Library which is tiresome and cumbersome. After the investigation, the

researcher has found out that Visual Basic 6.0 package is more suitable for the library acquisition control system of any university library.

Because of limited time at the researchers disposal, designs for all the database files needed could not be possible at the acquisition section of any university library. The research was mainly based on the designing of major database files used in acquisition control systems such as Acquis.dbf, vendor.dbf, and other many programmes.

Using this acquisition control system design, university library staff in charge of acquisition section can add the information about newly acquired documents to the library, information pertaining to the various vendors, their names, addresses, etc can easily be retrieved from the system. Since in the manual system it is very difficult to maintain the vendors' information and their performance because these records can easily get lost.

The system can also be used to place orders of the various documents library would like to purchase from the various vendors. Since each and every vendor has been identified by a different vendor code, it will be very easy for the library staff in charge of acquisition section to know the number of documents supplied by a particular vendor.

The system has a provision of reminding a particular vendor to supply specified documents to the library if the vendor has not done so within the required time. The system has a capacity of calculating and giving the result of total cost of documents supplied by a particular vendor to the library. If the librarian wants to retrieve information by, title code, title, author, publisher etc he or she must select the appropriate number representing that particular task to be performed and the result will be displayed on the screen of the computer.

The researcher believes that, this information storage and retrieval software developed for this project work will prove to be a successful information search tool and it will be beneficial to library personnel in charge of acquisitions section of both Annamalai University Library and other university libraries. The database and the programs can also be transferred to the hard disk of any PC/XT or PC/AT based on MS-DOS.

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