

# Design and realization library management system based on VB

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**Keywords:** Book management system; Visual Basic; Access database

**Abstract:** This paper designs the books management system's in the Windows environment. The system mainly adopts the visual design environment-Visual Basic and Microsoft Office Access as a development tool. According to the software system development process, the system can realize the current situation of the library on the basis of the require, meet demand analysis, system function general design, system function detailed design.

## Introduction

Book management system is a typical application of managing information system (MIS), its development mainly includes the establishment and maintenance of database[1]. The system can meet the data consistency and integrity and security of data and the application functional characteristics [2-4]. Therefore, the user can combines type opening into the library, access database management system, the application of the VB program design of the study and application, mainly complete the books management system demand analysis, function module division, database model analysis, and database structure and application[5].

## System overall design

### System function structure

According to demand analysis, the system designs books management system functional structure, as shown in the Figure 1.

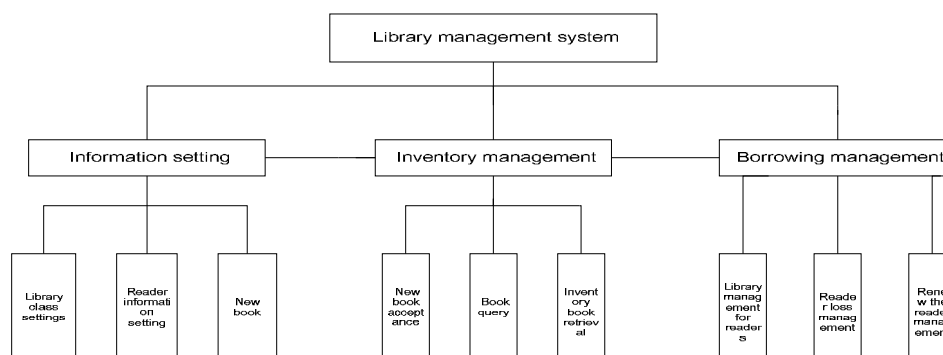


Fig.1. books management system functional structure

## Business process diagrams

Books management system business process diagrams as is shown in the Figure 2.

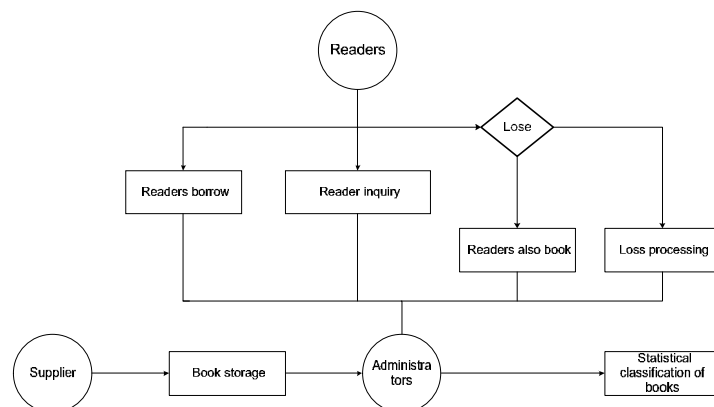


Fig.2. Books management system business process diagrams

### Books management system database design

From the above function structure and entity relationship diagram, the system design function modules and shows that its detailed introduction is as follows:

- 1) System management module-for log in, new user operation, etc.
- 2) The reader management module-operation for new readers, editors, readers.
- 3) Online library management module-used for operation of new books, edit and delete books.
- 4) Book query management module-query operation for library books.
- 5) Library management module-used to return book lending, book and book lending record query operation.
- 6) System information module-software is used to display information and exit.

### The database table design

According to the above on the system requirement analysis, system design, planning out the system used in the data entities.

The following will introduce a few key entities E-R diagram.

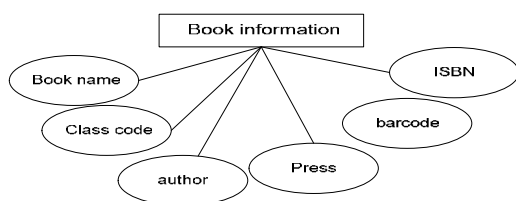


Fig.3. book entities of E-R diagram

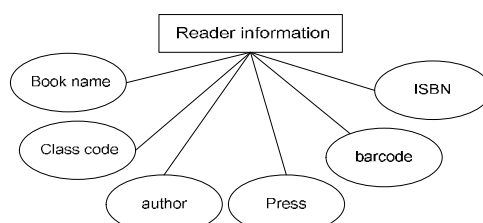


Fig.4. readers entity of E-R diagram

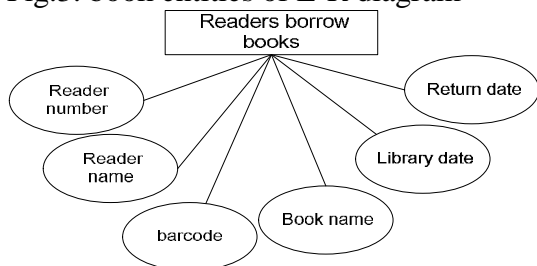


Fig.5. readers borrow entity E-R diagram

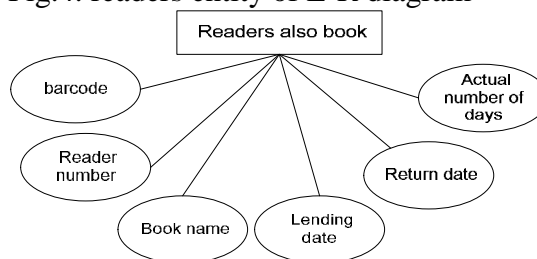


Fig.6. readers also entity E-R diagram

### The database logic design

According to design good E-R diagram, the system creates data in the database table, the system database of each table in the following structure.

- 1) Book

Table 1 the structure of the table book

Field name	data type	Field size
Book name	text	50
Class code	text	20
author	text	20
Press	text	30
Order price	currency	
Number of copies	Number (decimal)	
Enclosure	text	10
barcode	text	30

## 2) Reader

Table 2 Reader table structure

Field name	data type	Field size
barcode	text	30
Reader number	text	50
Book name	text	50
Book price	currency	
Press	text	30
author	text	20
Specified number of days	Number (decimal)	10
Lending date	Date / time	30
Return date	Date / time	
Actual number of days	Number (decimal)	
Real date	Date / time	
Exceed the number of days	Number (decimal)	

## 3) Borrow

Reader's information consists of in the table of information, its structure as is shown in Table 3.

Table 3 borrowb structure

Field name	data type	Field size
barcode	text	30
Reader number	text	50
Book name	text	50
Book price	currency	
Press	text	30
author	text	20
Specified number of days	Number (decimal)	10
Lending date	Date / time	30
Return date	Date / time	
Actual number of days	Number (decimal)	
Real date	Date / time	
Exceed the number of days	Number (decimal)	

## 4) Return

Readers also presents book table stores the readers of books information, its structure as is shown in Table 4.

**Table 4 returnb structure**

Field name	data type	Field size
barcode	text	30
Reader number	text	50
Book name	text	50
Book price	currency	
Press	text	30
author	text	20
Specified number of days	Number (decimal)	
Lending date	Date / time	
Return date	Date / time	
Actual number of days	Number (decimal)	
Real date	Date / time	
Exceed the number of days	Number (decimal)	

## Conclusion

This article designs the books management system based on Visual Basic and Access, realizes the reader's information registration, returns the book library module, etc...

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