Ex No: 3 LIBRARY MANAGEMENT SYSTEM

PROBLEM DEFINITION

The library management system is software, which automates the job of a librarian.

The user can inquire about the availability of a book in which he can search by entering the author's name or by entering the title of the book.

The user can borrow a book. He must provide the username and the card number, which is unique and confidential to each user. By confirming the authenticity of a user, the library management system provides information about the number of books already borrowed by the user and by referring to the database whether the user can borrow books or not. The library management system allows the user to enter the title and the author of the book and hence issues the book if it is available.

By entering the user details and the book details the user can return the borrowed book.

SYSTEM REQUIREMENTSPECIFICATION

INTRODUCTION

Purpose

The purpose of this SRS is to describe the requirements involved in developing a Library management system. The intended audience is any person, who wants to inquire, borrow and return the books.

Scope

- The product is titled Library Management System.
- The product will perform the following tasks Enquire about the availability of books.
- Borrow books if available.
- Return the borrowed books.

Definitions, Acronyms and Abbreviations DBMS – Database Management System.

References

IEEE standard 830-1998 recommended practice for Software Requirements Specifications-Description.

Overview

The SRS contains an analysis of the requirements necessary to help easy design.

The overall description provides interface requirements for the Library Management System, product perspective, hardware interfaces, software interfaces, communication interface, memory constraints, product functions, user characteristics and other constraints.

Succeeding pages illustrate the characteristics of typical naïve users accessing the system along with legal and functional constraints enforced that affect Library Management System in any fashion.

THE OVERALLDESCRIPTION

Product perspective

Hardware interfaces

Hard disk: The database connectivity requires a hardware configuration that is on-line. This makes it necessary to have a fast database system running on high rpm hard disk permitting complete data redundancy and back-up systems to support the primary goal of reliability.

The system must interface with the standard output devise, keyboard and mouse to interact with this software. Software interfaces

- Back End: MS-Access 2007
- Front End: Microsoft Visual Basic 6.0
- Memory Constraints
- No specific constraints on memory.
- Operations

The software allows three modes of operations 2.2.1.4.1.1 Enquire about the availability and status of books. By extracting the username and password the software allows the user to borrow a maximum of three books. By extracting the username and password the software allows the user to return the borrowed books. Product Functions

- Enquire about the availability and status of books.
- Search the availability of book by entering the title of the book.
- Search the availability of book by entering the author of the book.
- The software validates the authentic user by extracting their user name and password.

After the validation of the user software allows the user to borrow a maximum of three books based on the number of books which where already borrowed.

After the validation of the user software allows the user to return the books, which where borrowed.

User characteristics

The intended users of this software need not have specific knowledge as to what is the internal operation of the system. Thus, the end user is at a high level of abstraction that allows easier, faster operation and reduces the knowledge requirement of end user

The Product is absolutely user friendly, so the intended users can be the native users.

The product does not expect the user to possess any technical background. Any person who knows to use the mouse and the keyboard can successfully use this product.

Constraints

The user has a unique username and password, there are no options to retrieve a password or username in case it is forgotten or lost hence the user is requited to remember or store the username and password.

SPECIFICREQUIREMENTS

Logical Database Requirements

The system should contain databases that include all necessary information for the product to function according to the requirements. These include relations such as user details and book details.

The user details refer to the information such as name, card number, no. of books borrowed, the title and the name of the author of the books that were borrowed.

The book details refer to the information such as the title of the book, author availability status and the number of copies that is available.

FRONT – ENDDESCRIPTION

The library management system is automated library system where the user can search for the book by either entering the details of the book or the author's name. By entering the username and the password the software, by checking the number of books that are already borrowed enables us to borrow a maximum of three books. And by entering the username and password (card number), which is unique, the user can return the books.

BACK – ENDDESCRIPTION

The library management system consists of two tables. One contains the student details such as the name, card number that is the password, title and the author of the three books, which could be borrowed. The book details consist of the title of the book, number of copies, author and the availability status.

DATASTRUCTURES

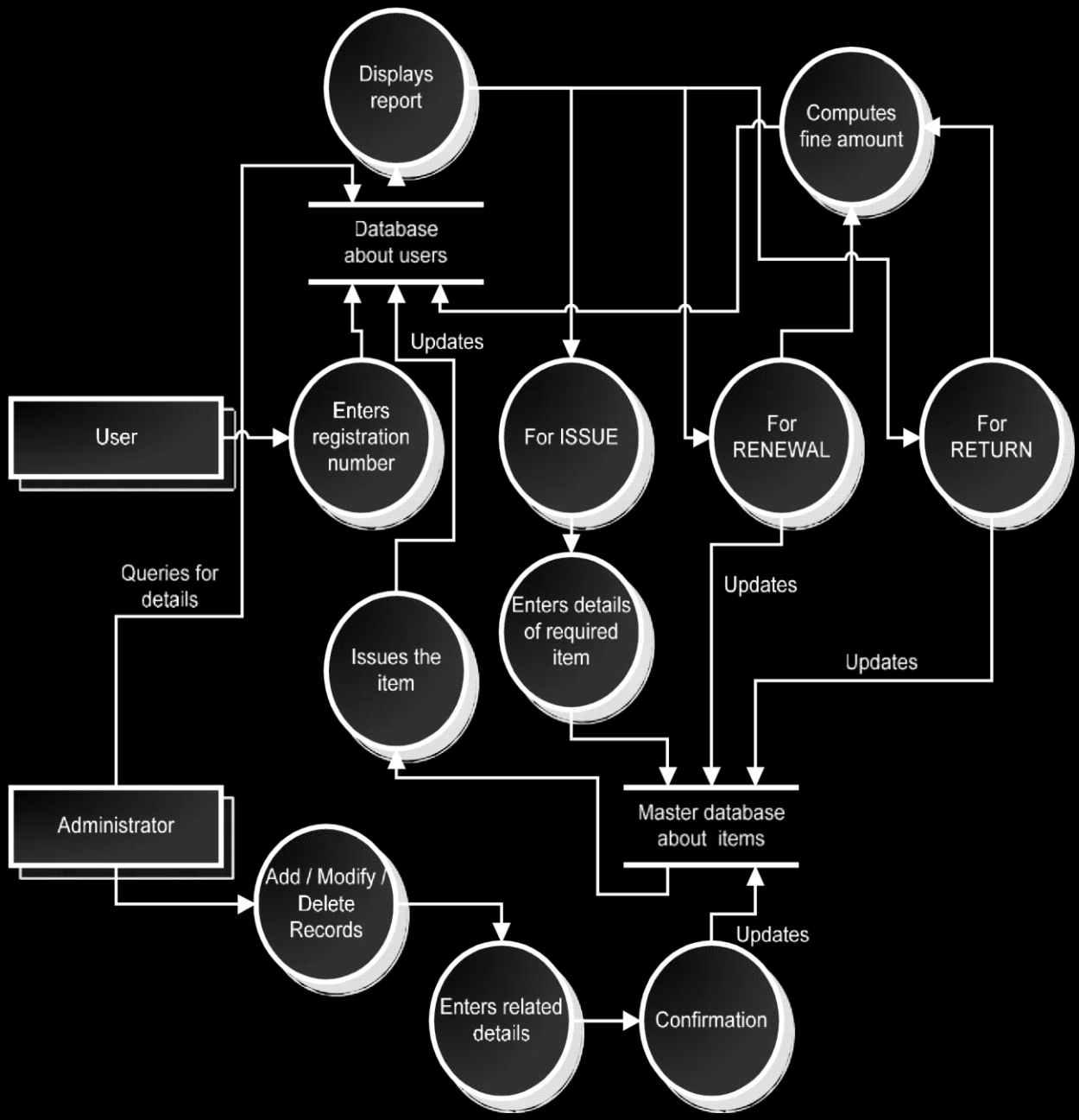
BOOK DETAILS

FIELD NAME	TYPE	CONSTRAINTS
REGISTER_NO	NUMBER	NOT NULL
BOOK_ID	NUMBER	NOT NULL
ISSUE_DATE	DATE/TIME	
RETURN_DATE	DATE/TIME	
BOOK_NAME	TEXT	

STUDENT DETAILS

FIELD NAME	TYPE	CONSTRAINTS
REGISTER_NO	NUMBER	NOT NULL
FNAME	TEXT	NOT NULL
LNAME	TEXT	
GENDER	TEXT	
DEPT	TEXT	
EMAIL	TEXT	
PASSWORD	TEXT	
NO_OF_BOOKS	NUMBER	

DATA FLOWDIAGRAM

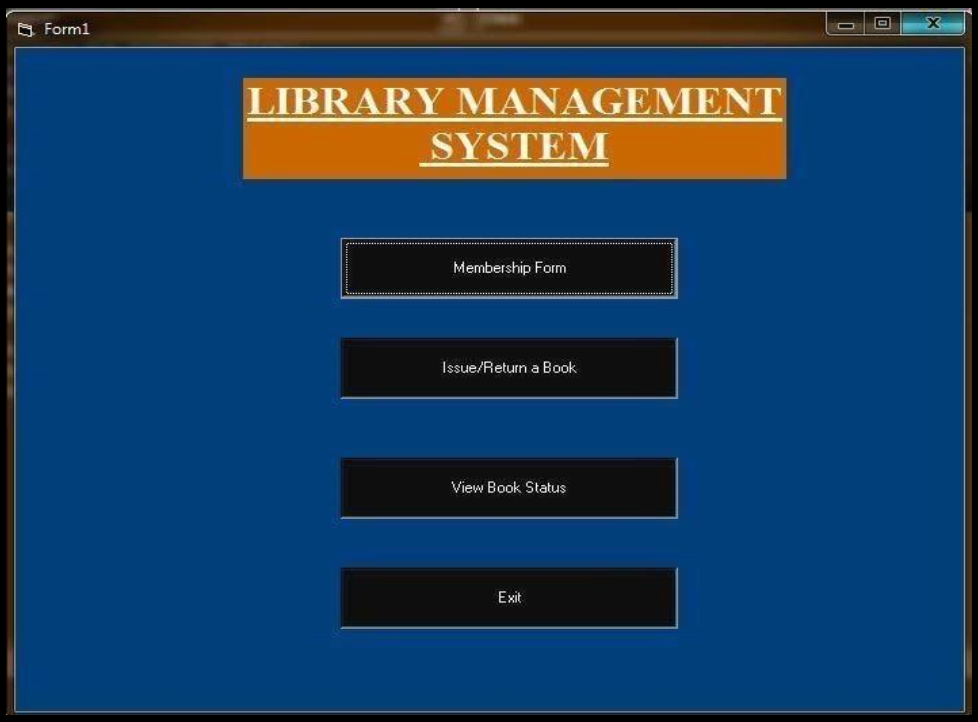


TESTING:

FORM NAME	INPUT	EXPECTED OUTPUT	ACTUAL OUTPUT	STATUS
MAIN MENU FORM	Menu Option	Show required Form	Required Form was displayed	Pass
MEMBERSHIP FORM	Member details are entered	Create new member account	New Account was created	Pass
LOGIN FORM	Member ID and password	If password is correct, login.	Member authenticated for future operations.	Pass
ISSUE FORM	Book ID	If books issued is less than three, issue the book.	Book issued	Pass
RETURN/REISSUE FORM	Book ID	Book returned/ reissued	Book returned/ Reissued	Pass
BOOK ENQUIRY	Book Name	Book details are displayed	Book details are displayed	Pass

SAMPLE FORMS

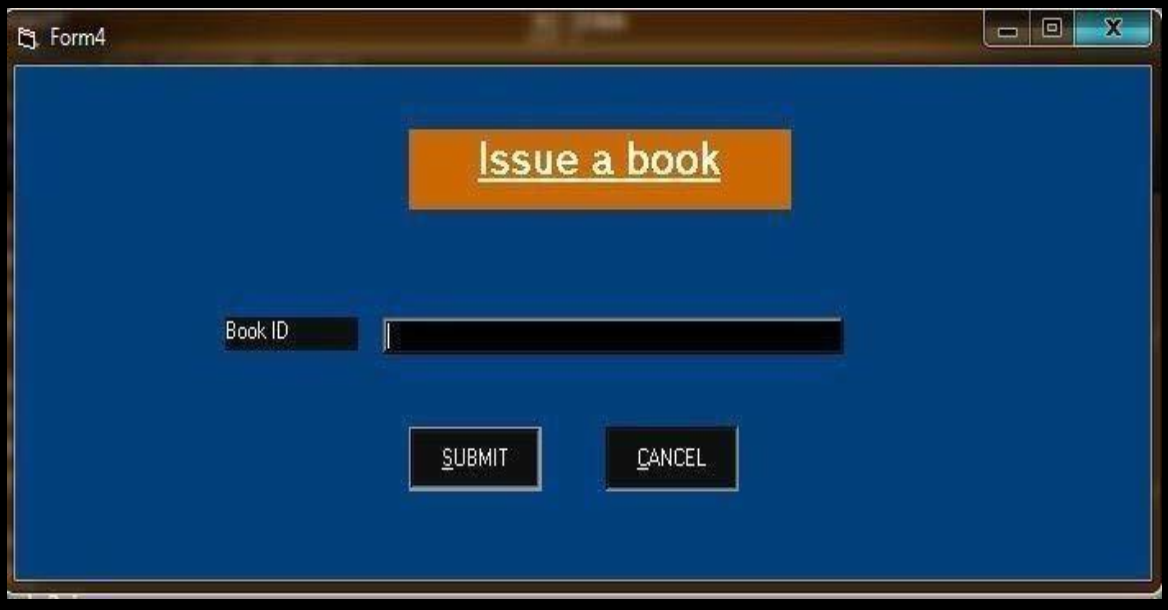
MAIN MENU FORM



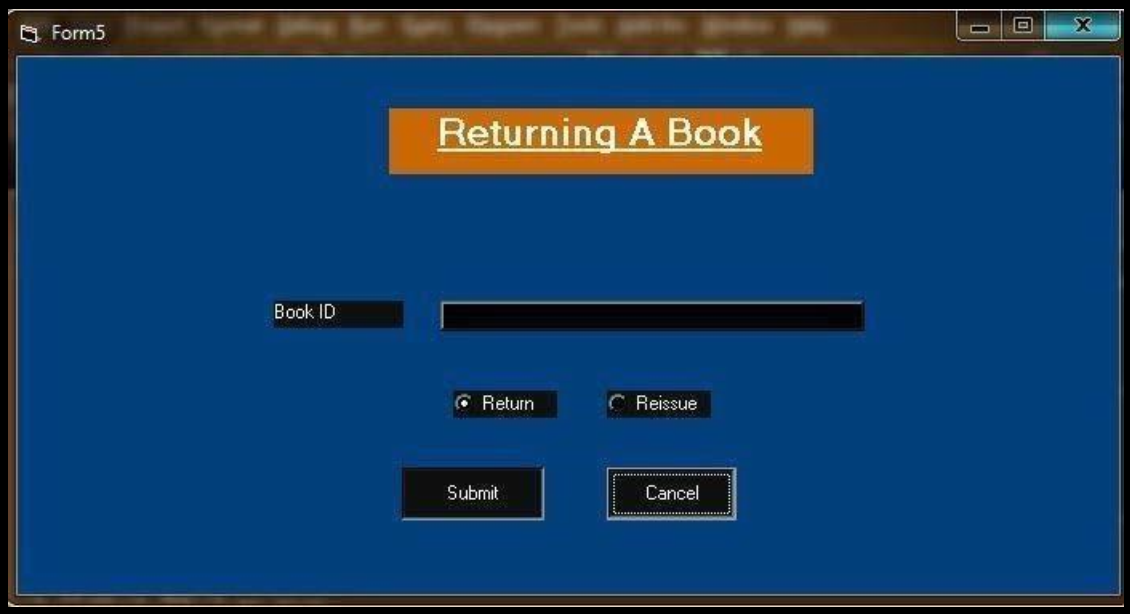
MEMBERSHIP FORM

LOGIN FORM

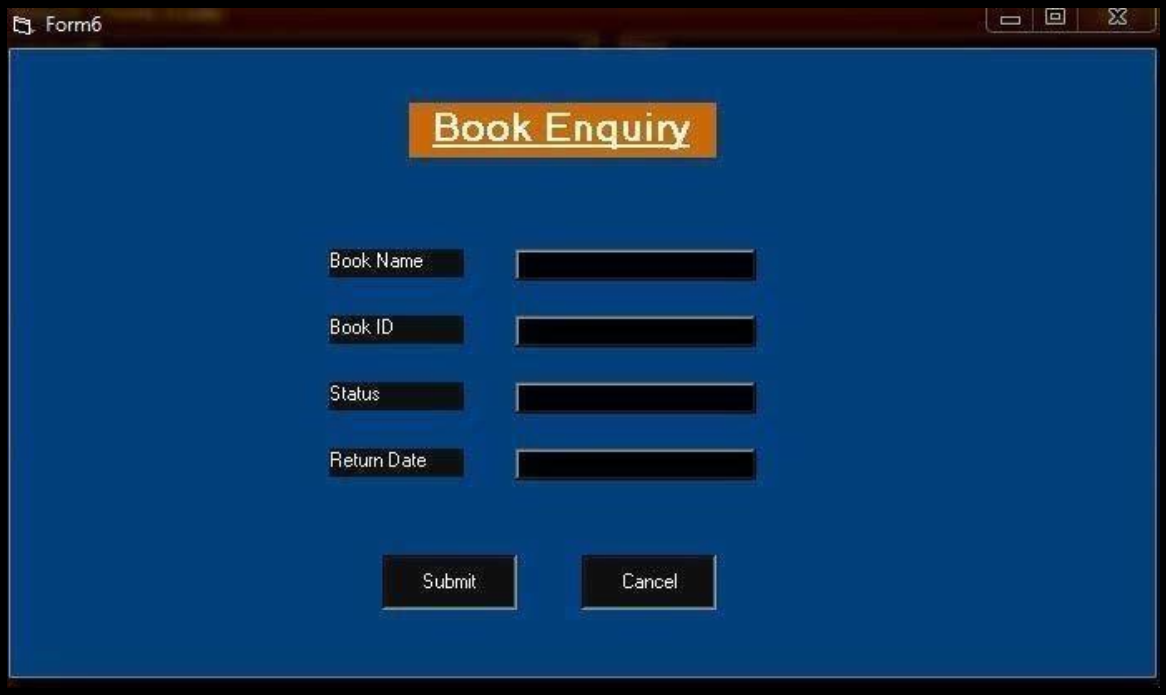
ISSUE FORM



RETURN/REISSUE FORM



BOOK ENQUIRY FORM



RESULT:

Thus, the online Library System was implemented using the specified front end and back end tools.