
Bookshop Automation **System**

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1. INTRODUCTION

The Bookshop Automation System is to automate all operations in a bookshop. It includes the Order Processing, Stock Management and Accounts Management. In automation of any operation, we make a system do work automatically as the respective events occurs, for which it is meant for.

Here we have made an attempt to develop such type system which provides the automation on the any type of the bookshop following which the customers of the shop are able to purchase the books without much complexity.

For example, if a customer wants to purchase any book from the shop, then firstly the customers just choose the stream of the book and then they can see more than one type of books and can choose the specific book from there itself by paying price on bookshop cash counter.

2. PROBLEM STATEMENT

Almost every activity in the world today is controlled by computer driven software programs. This trend was first accommodated by engineering applications in the past. However, as the life style became more and more complex, every area of human interactions was invaded by various software systems, such as real time, business, simulation, embedded, web based, personal and more recently, artificial intelligence software etc.

According to the above facts, managing and maintaining a book shop could also be controlled by efficient software. This project focuses attention on designing efficient and reliable software which controls the transactions of a bookshop.

In real world, it tends to associate with automated systems as they provide many benefits than doing the same thing in manually. As above mentioned, here we have introduced a system which can be used to maintain a bookshop.

When we are concerning the manual process of a bookshop, the major problem is the waste of time. A customer has to waste his/her valuable time when he needs to buy a book as all the events such as searching, purchasing are done by

Members of the staff .In briefly, the manual process is very slow. But automation will reduce the time taken in the whole process.

In a bookshop we should deal with a large store. Then person (storekeeper) has to maintain it with documents which are recorded by him. Therefore, there may be defective reports. Also company has to appointed more persons to complete the maintenance of the stationery. Then the company has to have an additional cost.

As we familiar with this type of system at instance we will be able to have the results that we want. Communication with suppliers, customers and other related organizations will be more successful as the system is so fast.

When the bookshop issues an item to a customer, all the stages of the transaction procedure will be facilitated by the system & it will be more accurate.

3. FEASIBILITY STUDY

3.1 Technical feasibility:

For the design and development of the system, several software products have been accommodated.

- Database design – MySQL, or any free DBMS.
- Interface design – html, CSS, JavaScript
- Coding – Django Framework of Python Language.

This software's have the enough efficiency in producing the system. Therefore the project is technically feasible.

3.2 Economic feasibility:

According to the resources available and the project scheduling process it is estimated that the expenses allocated for the software to be developed, by the customer is sufficient enough. Hence the economical factor has been considered feasible

4. REQUIREMENT SPECIFICATION

Book shop automation system (BAS):

1. BAS should help the customers query whether a book in a stock the user can query the availability of a book either by using the book title or by using the name of author.
2. The customer can also provide his e-mail address and mobile, so that he can be intimated automatically by the software as and when the book copy received.
3. If a book in stock, the exact number of copies available and the rack number in which the book is located should be displayed.
4. As soon as customer selects his book for purchase, BAS should update the stock and generate the sales receipt for the book.
5. BAS should allow employees to update inventory whenever new supply arrives. Also upon request by the owner of book shop.
6. BAS should generate sales statistics (viz, book name, publisher, ISBN number, number of copies sold and the sales revenue) for any period.

4.1 FUNCTIONAL REQUIREMENT

R1. Check for availability of book:

Description: When customer selects this option he is required to enter book title or the author name of book. The system would search the books in the books register based on the keywords. After making the search the system should output the details of all the books based on the details given.

R1.1:	Select query book availability option Input: "query book availability" option is clicked Output: User prompted to enter the key words
R1.2:	Search for book name and display result
	Input: Book title or the author name Output: Display details of all the books, no. of copies available and the rack no. where the book is located.
Processing:	Search the books in the book register based on the key words, if the book is not currently being sold by book-shop, then the customer is asked to enter full details of the book for procurement of the book in future. If a book is in stock, the exact

	number of copies available and rack number in which the book is located should be displayed. If a book is not in stock, the query for book is used to increment a request field for the book
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R2. Purchase Book:

Description: Once the customer selects this option the system will ask to enter the ISBN no. of books sold. And the system will take the prices of books from inventory and generates the bills and updates the stock and generate the sales receipt for the book.

R2.1:	Select purchase option Input: "purchase "option is clicked Output: Prompt message to the salesclerk to enter the ISBN number of selected book
R2.2:	Generate sales receipt
	Input: Enter the ISBN number of selected book Output: Gets the price from inventory and prints the sales receipt and updates the stock
Processing:	Generates the bill based on the ISBN number of book selected by customer

R3. Update stock:

Description: Once the employee selects this option, he would be asked to enter the list of new book name.

Precondition:	Employee is logged in.
R3.1:	Select update inventory option. Input: "update inventory" option is clicked Output: Employee will be prompted to enter the details of books
R3.2:	Updating the inventory
	Input: Employee will enter the book details that is procured for the first time

	Output: Generates the ISBN number for the new books
Processing:	Updates the inventory by generating ISBN numbers of the books and updating the other details such as rack number, publisher, book name, and price.

R4. Generate Sales Statistics:

Description: Once the manager selects this option, he will be informed about exact business done over any period of time. It also calculates inventory level required for various books.

Precondition:	Manager is logged in.
R4.1:	Select Analytics option Input: Select "Analytics" option Output: System will generate the sales statistics
Processing:	System calculates the inventory level required for a book which is equals to number of copies of book sold over a period of two weeks multiplied by average number of days it takes to procure the book from its publisher. And generate statistic according to it. Display it.

4.2 NON-FUNCTIONAL REQUIREMENT

1. Security Requirements:

Only the administrators have the authority to edit details in Users and Items tables. Normal system users cannot access the Administrators login. All deleting actions are notified by a message box asking to confirm deletion.

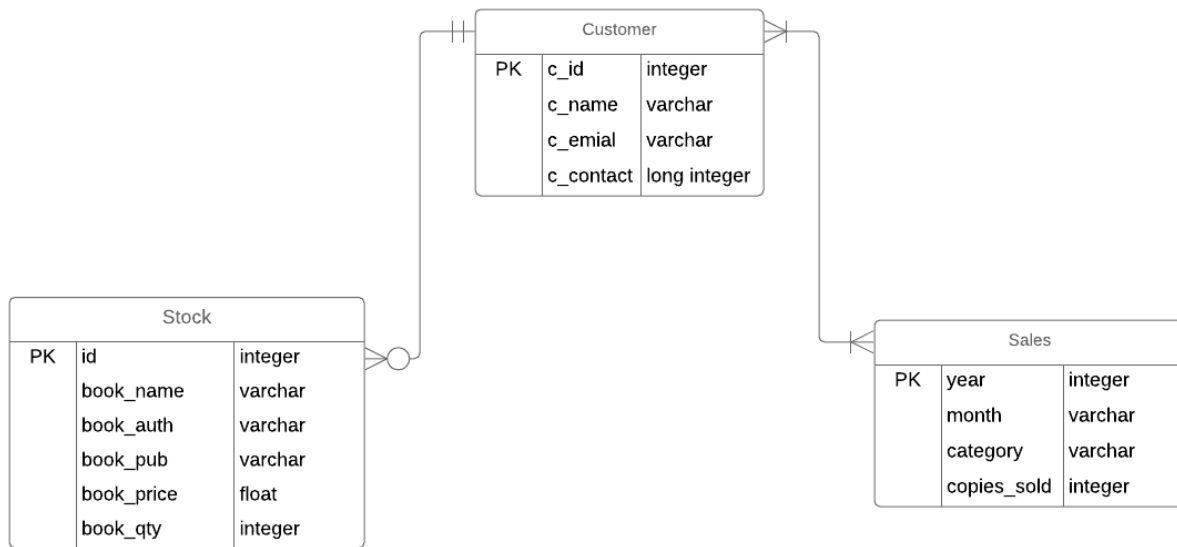
2. Availability:

The system should be available 24*7 and should provide all the facility to the users.

3. Performance Requirements:

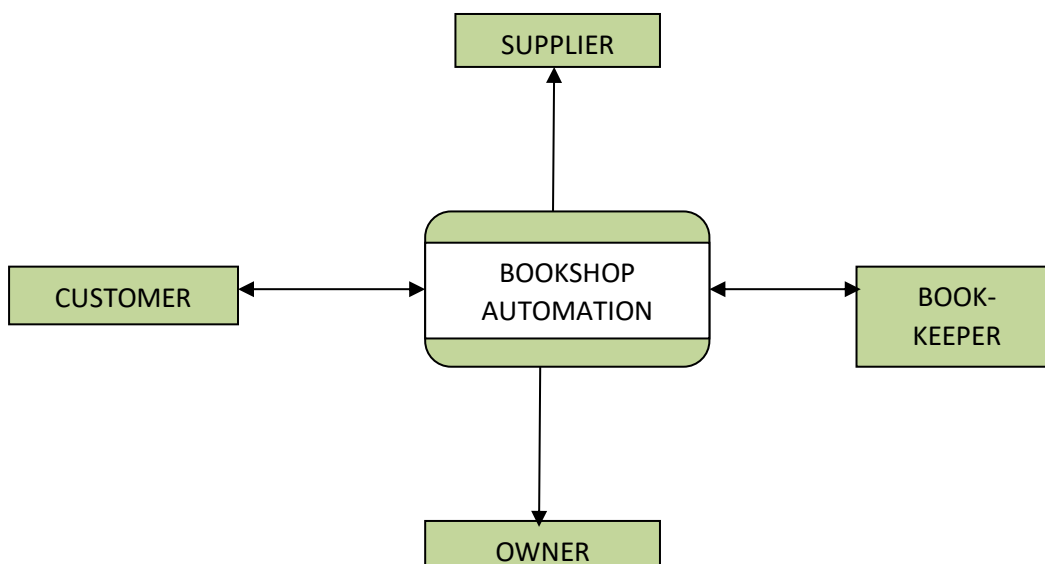
- * The login should be verified within 3 second.
- * All the query to the database must be completed within 5 seconds.

5. ER DIAGRAM

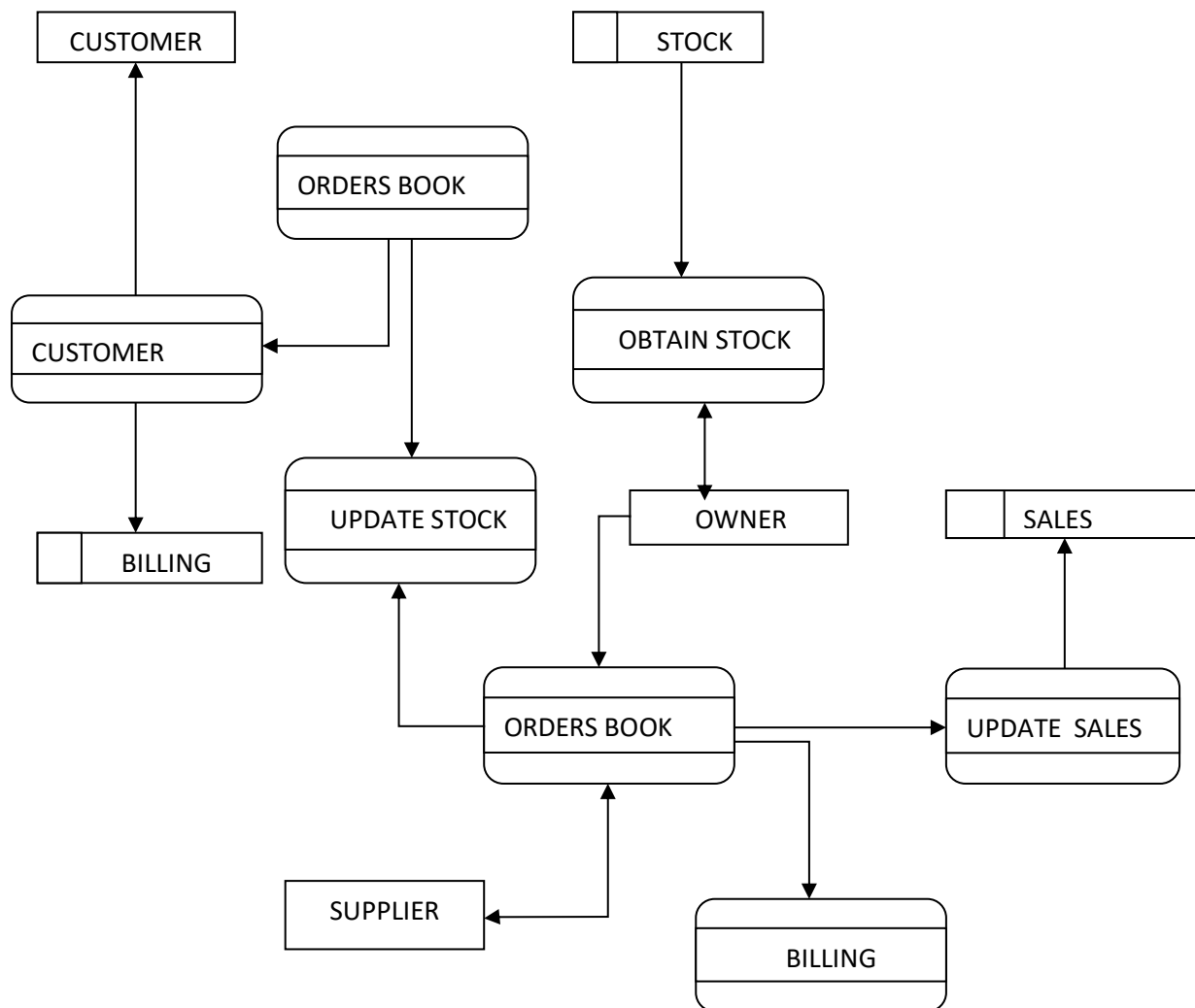


6. DFD

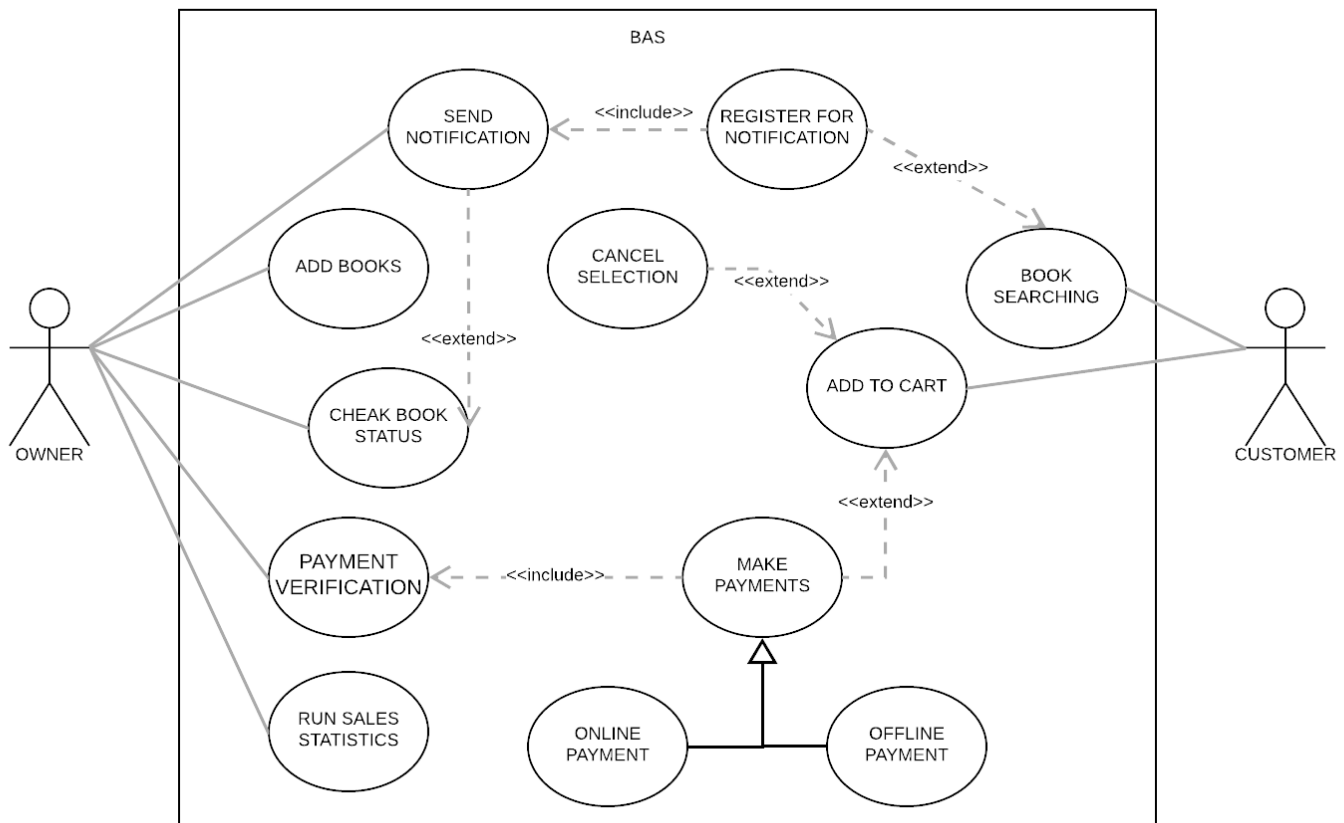
1. Level 0 DFD



2. Level 1 DFD



7. USE CASE DIAGRAM



8. CONCLUSION

This Bookshop Automation System is an attempt to overcome the present inefficient and time consuming process of locating, reserving and purchasing quality reading materials available in the store. Currently, clients have to go through a time consuming process to perform aforementioned tasks which cause waste of labour and firms resources. Through our automated book store solution, we provide an easy way of searching, reserving and purchasing of books.

User data are validated and checked for authenticity with the data stored in the system database. All the newly coined processes will address time consuming, ineffective and inefficient areas of the existing system which has being wasting a lot of firms resources such as, labour, electricity, equipment, products and services, while discouraging customers to make purchases and repelling clients from the book store.

Proposed system will support both clients and the store in many areas. It's worth analysing and identifying the benefits as it would directly influence the productivity of the store.

Customer satisfaction plays the most vital role in any form of product and service rendering store as the existence of any firm solely depends on its customer-base. Therefore, every system should facilitate the customer satisfaction up to a certain extent which is feasible from the company perspective.

The aforementioned facts ensure customer satisfaction to a greater extent benefiting the store in:

- Retaining current customers
- Tempting current customers to attract their friends to the store
- Attracting new customers
 - Enhancing the customer faith on the firm due to secure transaction techniques while tempting customers to make more online purchases
- Identifying profitable customers
- Identifying different categories of customers
- Making necessary alterations and plans to address broader range of customers
 - Identifying key areas of the inventory which need to be maintained at a healthy stock limit
- Analysing trends to make more effective management decisions and development of new strategies to increase profit

These particulars will make sure the broadening the customer base of the store which will have good impact on the sales and revenue of the store.

Employee satisfaction also plays an influential role in healthy revenue levels of a firm. Due to the proposed system, employees will have to handle minimum amount of workload than that of the existing system which will help the employees to provide optimal service to the firm while maintaining healthy physical and mental levels.

Proposed system will reduce transaction and agency cost of the store up to a certain extent since the transactions are automated and need of minimal labour to handle work as the their work has been governed by the system.

Even though these advantages prevail, due to lack of IT literacy and fluency of clients and lack of distribution of internet facility will have a negative impact and it

will take some time to cover up the capital investment made on implementing the new system. Since the technical facilities are expanding in great heaps, proposed system will facilitate enhancing productivity immensely.

8.1 PROBLEM I.E. SOLVED BY THE SYSTEM

Here our main goal is that we are just solving the problem of selling of book in the particular very big book shop which have large amount of books within it. Since there are many people would be in the shop to provide the good service to the customers of the book shop. But it is not possible to provide the good service to the customers because it is not possible by the manually. There are the some problems which may be solving by our application. Which are as follows:-

- Fast service: - In the sense of fast service by this we can give the fast service (entertain, selling, purchasing, money deposits etc.) to the customers of the shop.
- Reduces the workload: - in the sense of workload reduction that means all the tasks are done by the automated system/machine which give the rest to the shop owner.
- Good management: - in the sense of good management our system provide the good management in the book keeping and provide the good scheduling in the all the operations of the book shop.
- Provide the satisfaction to the customers: - In the sense of satisfaction of the customer, because customer is doing its all operations with the system on his requirements and he is completely satisfied because our system is fulfils its all requirements.
- Able to do all type of money transactions: - we are developing the type system which is able to do all type of money transactions (debit & credit cards and internet banking etc.)

9. REFERENCE AND BIBLIOGRAPHY

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2. Software Engineering by Rajib mall