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LIBRARIES AND BARCODE TECHNOLOGY

Parameshwar Shivling Kempegouda

Assistant Librarian, T John Institute of Technology, Bangalore,

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Abstract

Many library operations have gotten easier and faster thanks to barcode technology. The circulation system's speed, effectiveness, and precision were all enhanced. It is particularly beneficial for both library security and user service. The significance of barcode technology and its use in library services are discussed in this article. The main objective of this paper is to increase librarians' knowledge of barcode technology in order to persuade them to use it in the library. Barcodes are a cheap technology that can be used in any library

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*Corresponding Author:

Email: goudaparameshwar@gmail.com, Parameshwar Shivling Kempegouda

1. INTRODUCTION

A barcode is an array of black bars and white spaces printed in a certain pattern to represent self-contained, uniquely identifiable messages. These black bars and white spaces can be read by a barcode reader, which then transmits messages to a computer to decode the character's number. The computer recognises black bars as 0s and 1s and white spaces as offs and nodes. There are typically two different types of barcodes: linear barcodes and 2-D barcodes. Black vertical lines and white space are used to create linear barcodes. It is specific and represents fixed data. This particular sort of barcode typically just holds numerical data. Two-dimensional barcodes are created using either stacked linear bars or a matrix symbol with black and white pixels.

2. ESSENTIAL REQUIREMENTS FOR BARCODING

Barcode implementation in library applications requires the following hardware and software:

1. *Computer*: The first thing we need is a computer, which can be either a laptop or a desktop with all the necessary software installed.
2. *Library Software*: Software for managing libraries is needed, together with a good database of patrons and books, to encode the data.
3. *Printer*: printer is necessary in order to print the barcodes produced by library management software.
4. *Stationary items*: We require labels, pasting supplies, and other things to print the barcodes.
5. *Barcode reader*: Barcode readers are required to print the barcodes produced by the library administration software.
6. *Decoder*: Before information is fed into the computer, the decoder converts the scanned data into ASCII characters.
7. *Skilled staff*: We need skilled personnel to use library management software to generate barcodes, print, and paste properly.

3. OBJECTIVES OF BARCODING

The goals of bar coding are as follows:

1. To improve efficiency and precision.
2. To save both the user and the staff time.
3. To save money overall
4. Increasing operational efficiency.
5. Simple way of inventory checking.

4. BARCODE APPLICATION TO LIBRARY ACTIVITIES

Barcoding is used in the following library activities:

4.1 Accession

A new book must be assigned an accession number when it is added to the library's existing collection. The specific number assigned to a document when it is added to the library's collection is called the accession number. A barcode specific to that particular accession is generated after the acquired book receives an accession number. After that, barcode labels are printed and attached to the book. A bar-coded accession number can be used to identify a book or to retrieve all of its information.

4.2 Membership

Each new member is given a special identification number based on their roll number and faculty of enrollment in order to provide new membership. The user's card bears a bar-coded version of this distinctive identification number. Each library patron can be recognised using this barcode.

4.3 Circulation

As far as the user is concerned, circulation is the most significant task carried out by the library. The user utilises borrowing options. A barcoded library card and the book you want to borrow must be turned in when you want to check out a book from the library. Using a barcode reader, the staff member at the circulation desk can read a card's barcode and verify a user's information. After that, the book's barcode will be scanned to finish the issuing procedure. The user must turn in the book they were issued at the circulation desk when they return it.

4.4 Stock Verification

The library staff can quickly take stock of the collection with the use of a barcode. With a hand-held terminal attached to a barcode scanner, the library staff member walks around to each stack, scans the barcodes of the books there, and verifies what books are actually there. You can download this data to your main PC. The employees of the library may learn specifics about the stock status, such as the number of missing volumes, the number of books that have been issued, sent to binding, etc., through further processing. Thus, the time-consuming and laborious task of

stock checking can be avoided by library staff.

4.5 System of library attendance

Barcode technology can also be used to monitor when people enter and leave the library. There should be a barcode scanner put at the library's entrance. Users must scan the barcode on their membership card each time they enter the library in order to record their attendance, which may subsequently be saved as an excel document.

5. Certificate of no due

When a member quits the organisation and his or her membership is cancelled, the library issues no dues certificate. In a manual system, this process takes time and is prone to errors. The member surrenders his or her identity card in a computerized system that uses barcode technology, and the counter personnel scan it. The automation package will scan the database for any documents issued in his or her name. If no dues are owed, no dues certificate will be printed.

6. CONCLUSION

The manual nature of the conventional library system made it challenging to offer all services to patrons while also saving their time. Barcode technology minimises paperwork, frees up staff and patron time, and boosts productivity across a range of library functions. Data entry via a barcode is extremely quick and error-free. Barcodes eliminate the possibility of human error in the circulation department of the library. Barcodes are remarkably adaptable. They can be used for the many significant data collection projects the library is working on.

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