PREFACE

The term RFID is generally used to identify the objects using radio signals. Any RFID system consists of an RF device that communicates with a tag, which is embedded with a single-chip processor and an antenna. Like good-old Barcode Readers, RFID reader can be fixed or portable. RFID tags are capable of storing and transmitting information. They vary in design and capability, depending on the manufacturer and their intended use. The first distinction between tags is whether they are passive or active.

RFID technology is being implemented in a number of industries. Supply chain implementation is perhaps one of the most frequently mentioned applications of RFID tags and equipment. Retailers such as "Wal-Mart- and grocery stores such as "Albertson's" have begun to make it mandatory for their suppliers to tag merchandise destined for their stores. There is, however, a key difference to the library's inventory as compared to that of a warehouse or a retail outlet. In the warehouse and retail supply chain, goods come in and leave. Only occasionally are they returned. The retail sector is looking at RFID as a "throw-away" technology that hands an item to a customer which gets discarded. RFID tag is much more than the cost of printing a barcode on a package. In libraries, items are taken out and returned many times. Thus the same RFID tag is re-used many times.

Now-a-day's libraries across the globe started to use RFID to speed up the self-check in/out processes, to control the theft and to ease the inventory control in library. The Barcode Technology is slowly getting replaced by the RFID technology. The RFID tag does not have to be visible for detection. It can be read even when it is embedded in an item, such as in the cardboard cover of a book or in the packaging of a product. It can also store data such as stack number, accession number, book number, author information etc., but barcode is limited to just an identification number.
A library is a collection of information, sources, resources, books, and services, and the structure in which it is housed. Apart from books many libraries are now also repositories and access points for maps, prints or other documents on various storage media such as microform (microfilm/microfiche), audio tapes, CDs, LPs, cassettes, videotapes, and DVDs. Libraries have materials arranged in a specified order according to a library classification system, so that items may be located quickly and collections may be browsed efficiently. Reference stacks are different which has only reference books and only selected members.

The present work of RFID based Library Management System using MATLAB developed and implemented for the processing and analysis to handles the books in the library easily and efficiently.

The chapter 1 deal with the Introduction to library, types of libraries and types of technologies used for the library management and their application implementation with earlier literature.

The chapter 2 deals with the hardware of RFID based library management system the individual unit's description and its operation.

The chapter 3 deals with software development and its implementation using MATLAB GUI, database toolbox and deploy tool, algorithm and flowcharts for the development of RFID based Library Management System.

The chapter 4 deals with results and conclusion of the present work.