SOFTWARE REQUIREMENT SPECIFICATIONS

Introduction

➢ **Purpose:**

This document gives the software requirement specifications report for Library Management database.

This is aimed mostly at the student community at college level.

1.1 **Project Scope:**

The purpose of this project is mainly to facilitate the interaction between reading community and Library. The system is based on a relational database supporting access of books by the members of the Library and monitoring the activities of members and books by the Library in charge.

1.2 **References:**

➢ Lectures by Professors Dr. D. B. Phatak and Dr. Supratik Chakraborty

➢ Krazytech.com

➢ Stackoverflow.com

➢ C++programming.com

➢ Wikipedia

➢ Abhiram Ranade

➢ Previous Projects

➢ C++ Standard Libraray: The string Class

➢ http://www.cplusplus.com/reference/

➢ en.wikipedia.org/

➢ www.codeblocks.org/docs/main_codeblocks_en.html

➢ php.net/manual/en/function.fread.php

Overall Description

1.3 **Product Perspective:**

The library database system contains the following attributes:

a. **THE DETAILS OF THE BOOKS AVAILABLE IN THE LIBRARY:**

A separate database is created for managing the details of the books which contains the details such as name, author name, course, book reference number, availability, details of issuing person, date and time of issuing.

b. THE MEMBERS IN THE LIBRARY:

A separate database is created for maintaining the details of the members of the library. This database contains details such as name of the member, username, password, courses enrolled, library user code, book ids of issued books (assuming that a particular member can hold only three books at a time).

1.4 Product Features:

PATRON FEATURES:
- ➢ Searching a book by title
- ➢ Searching a book by reference number
- ➢ Searching a book by course
- ➢ Searching a book by author
- ➢ Check the availability of the book

ADMIN FEATURES:
- ➢ Creating a new patron account (on request).
- ➢ Termination of patron's account (on request or any discrepancy).
- ➢ Adding new books to the database
- ➢ Deleting existing books
- ➢ Issuing of books
- ➢ Returning books

ALGORITHMS:

Mainly only searching data in the databases of patrons, books and admin are to be carried out which needs and efficient algorithm.

Searching data in books database can include search by:
- ➢ Title of the book
- ➢ Author
- ➢ Course
- ➢ Book reference number.

1.5 User Classes and Characteristics:

User is of two types: I. Admin and
II. Patron.

Admin should be able to:
- ➢ Access and edit the database containing information of books
- ➢ Access and edit the database containing information of patrons
- ➢ Add new books to the database
- ➢ Delete existing books
- ➢ Issue books
- ➢ Return books
- ➢ Create a new patron account (on request)
- ➢ Terminate patron's account (on request or any discrepancy)

Patron should be able to:
- ➢ Search required book by giving its name or its corresponding details.
- ➢ Check the availability of the book.

2.4 Operating Environment:

Operating environment for the library database is as listed below:
- ➢ Admin (server)/Patron (user) system.
- ➢ Operating system: Windows 7 or higher versions, Linux /Ubuntu.
- ➢ Platform: Code: :blocks IDE .

2.5 Design and Implementation Constraints:
- ➢ Creating a database of books and patrons and maintaining them.
- ➢ Accessing the database for specific information from the C++ program like searching.
- ➢ Storing the database centrally for use by all the users.
- ➢ Memory for storage of database.
- ➢ Traffic of access of the database system by patrons.

System Features Description

The library management system maintains information about the patrons and admins and books. The project is of high priority because the basic requirement of student is references (books).

Response sequences:
- ➢ Searching books
- ➢ Displaying detailed list of books related to search
- ➢ Issuing and return of a book by Patron.

External Interface Requirements

User Interfaces:

> ➢ Front end software: Code: :blocks IDE