

**Online Library System Software Requirement Specification**

Version 1.0

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## Revision History

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| --- | --- |
| **Revision** | **Changes** |
| **V1.0** | Software Requirement Specification  Document Initial Release |
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## Introduction

Borrowing books, returning books or viewing the available books at Premium Library is currently done manually where in the user has to go to the Library and check the available books at the Library. User check the list of books available and borrow the books if the book is a borrow book otherwise it is of waste for the user to come to the library to come to check for the books if the user doesn’t get the book. Then the librarian checks the user id and allows the user to check out the book and the librarian then updates the user database and also the books database. A user can borrow a maximum of 2 books for 2 days if available.

We have decided to investigate the use of an online library system that would be used by the user to check the availability of the books, reserved books and borrow the books, and by the librarian to check-in and check-out borrowed books and also update the databases.

The purpose of this document is to analyze and elaborate on the high-level needs and features of the Online Library System**.** It focuses on the capabilities and facilities provided by a Library. The details of what all are the needs of the Online Library System and if it fulfils these needs are detailed in the use-case and supplementary specifications. This document consists of functional and non-functional requirements for Premium Library Online Library System Software Requirement Specification. These requirements describe what services the system should provide and the constraints on the services of the system.

Premium

### Purpose

The purpose of **Software Requirements Specification (SRS)** document is to describe the external behaviour of the Online Library System. Requirements Specification defines and describes the operations, interfaces, performance, and quality assurance requirements of the Online Library System. The document also describes the non functional requirements such as the user interfaces. It also describes the design constraints that are to be considered when the system is to be designed, and other factors necessary to provide a complete and comprehensive description of the requirements for the software. The Software Requirements Specification (**SRS**) captures the complete software requirements for the system, or a portion of the system. Requirements described in this document are derived from the Vision Document prepared for the Online Library System.

Premium Library requires an Online Library System that is capable of all this.

### Scope

The Software Requirements Specification captures all the requirements in a single document. The Online Library System that is to be developed provides the user of the Library and employees of the library with books information, online reservation of books and many other facilities. The Online Library System is supposed to have the following features.

* The product provides the user with online reservation of books capabilities and the Online Library System is up and running all day.
* The system provides logon facility for Administrator, librarian and users.
* The system provides the users with the option to create and check their account.
* The system lets the library staff to access the system during the library hours.
* The system allows the users to borrow a book for 2 days.
* The system lets the library staff to check which all Users have reserved a books and whether they can borrow any more books or not.
* The system allows the Administrator to create the books catalogue, add/delete books and maintain the books catalogue.
* The system is updated when the user borrows or returns a book.
* The book catalogue is automated and the decision of offering the book based on the category of the book is automatically decided.

The features that are described in this document are used in the future phases of the software development cycle. The features described here meet the needs of all the users. The success criteria for the system is based in the level up to which the features described in this document are implemented in the system. The introduction of the new system is to occur on the start of the school calendar year.

### Template

The following template will be used for each requirement.

|  |  |
| --- | --- |
| Priority No. | Requirement No. |
| Title | Title of the requirement. |
| Description | Description of the requirement. |
| Rationale | Reason for the requirement. |
| Dependencies | What other requirement does this requirement depend on? |

### Definitions and Abbreviations

Mgmt Management

Admin Administration

SRS Software Requirements Specification

V Version

## User Classes and Characteristics

This system has 3 levels of users. The following classes of user are defined below:

|  |  |  |
| --- | --- | --- |
| Level | User | Description |
| 1 | Administrator*:* | The system administrator will have the ability to add librarian and books to the system. |
| 2 | Librarian: | Librarian will have the ability to view Users reservation, check-in and check-out borrowed books and also update the databases. |
| 3 | Users: | User can reserve book from home and can borrow maximum of 2 books for 2 day. |

## Assumptions and Dependencies

1. Management will be responsible for adding books and creating librarian accounts in the system.
2. Librarian shall have access to the system only from the internal library computers.
3. The System updates itself after library hours.

## Specific Requirements

# Functional Requirements

## Administrator Functions

The system admin will have the ability to add new librarians and new books to the system.

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| --- | --- |
| Priority No. 1 | Requirement No. 101 |
| Title | Administrator can login |
| Description | Open home page of premium library web site. Click on login link. Log in page opens. Fill in administrator credentials into login form and click submit button. If all details entered are correct, the administrator account page should open. |
| Rationale | An admin need to be able to safely log in to use administrator account. |
| Dependencies | 301 |

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| --- | --- |
| Priority No. 1 | Requirement No. 102 |
| Title | Administrator can view account |
| Description | On successful login administrator account page should open and all administrative features should become available. |
| Rationale | Admin can use features of administrator account.. It is used to add / delete librarians and books. |
| Dependencies | 101 |

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| --- | --- |
| Priority No. 1 | Requirement No. 102 |
| Title | Administrator can create librarian account. |
| Description | The administrators will have the ability to edit their own details including their password. |
| Rationale | The administrator can update their own details as required if they were entered incorrectly or if they wish to change their password |
| Dependencies | 1001, 1002 |

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| --- | --- |
| Priority No. 2 | Requirement No. 103 |
| Title | Administrator can logout |
| Description | When logout button is clicked, the administrator page should close and home page containing login link should open. Administrator account page now can be accessed only after successful login. |
| Rationale | Administrator be able to log out from administrator account to close it. |
| Dependencies | 101, 102 |

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| --- | --- |
| Priority No. 2 | Requirement No. 104 |
| Title | Administrator can add books |
| Description | On successful login administrator account page should open and "add book" link should become available. On click, "add book" page opens. After entering all book details into add book form and clicking submit button, a prompt should appear, confirming that book successfully added. |
| Rationale | Administrator need to be able to add books into the system. |
| Dependencies | 101, 102 |

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| --- | --- |
| Priority No. 2 | Requirement No. 105 |
| Title | Administrator can view books |
| Description | On successful login administrator account page should open and "books" link should become available. On click, "books" page opens. As default, book page display scrollable books table containing details of all books in database |
| Rationale | Administrator need to be able to see all books in the system. |
| Dependencies | 101, 102, 104 |

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| --- | --- |
| Priority No. 3 | Requirement No. 106 |
| Title | Administrator can delete books |
| Description | When "books" page is open and books table available, it should be possible to scroll to table row, which contains details of required book. Then after clicking delete link in the book row, database and books page books table get updated, deleted book details removed. |
| Rationale | Administrator need to be able to delete books from the system. |
| Dependencies | 101, 102, 104, 105 |

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| --- | --- |
| Priority No. 2 | Requirement No. 107 |
| Title | Administrator can create librarian account. |
| Description | On successful login administrator account page should open and "add librarian" link should become available. On click, "add librarian" page opens. After entering all new librarian details into add librarian form and clicking submit button, a prompt should appear, confirming that new librarian successfully added into database. |
| Rationale | Administrator need to be able to create new librarian in the system. |
| Dependencies | 101, 102 |

|  |  |
| --- | --- |
| Priority No. 2 | Requirement No. 108 |
| Title | Administrator can view librarian accounts. |
| Description | On successful login administrator account page should open and "librarians" link should become available. On click, "librarians" page opens. As default, librarians page display scrollable librarians table containing details of all librarians in database. |
| Rationale | Administrator need to be able to see all librarians details in the system. |
| Dependencies | 101, 102, 107 |

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| --- | --- |
| Priority No. 3 | Requirement No. 109 |
| Title | Administrator can delete librarian account. |
| Description | When "librarians" page is open and librarians table available, it should be possible to scroll to table row, which contains details of required librarian. Then after clicking delete link in the corresponding librarians table row, database and librarians table on librarians page get updated, deleted librarian details removed. |
| Rationale | Administrator need to be able to delete librarians details from the system. |
| Dependencies | 101, 102, 107, 108 |

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| Requirement No. | 2006 |
| Title | Management Logout. |
| Description | Management employees will be able to logout of the system. |
| Rationale | Management must be able to logout of the system for security reasons. |
| Dependencies | 2001 |

|  |  |
| --- | --- |
| Requirement No. | 2007 |
| Title | Add Employee. |
| Description | Management shall be able to add employees of all types to the system. |
| Rationale | Management must be able to add new starters to the system. |
| Dependencies | 2001 |

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| Requirement No. | 2008 |
| Title | Update Employee. |
| Description | Management shall be able to update employees of all types to the system. |
| Rationale | Management must be able to update employee records on the system if their personal details change or if they change employment type |
| Dependencies | 2001 |

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| Requirement No. | 2009 |
| Title | Delete Employee. |
| Description | Management shall be able to delete employees of all types off the system. |
| Rationale | Management must be able to delete employee records on the system if that person has left the company |
| Dependencies | 2001 |

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| Requirement No. | 2010 |
| Title | Pay Employee Wages and Salary. |
| Description | The manager shall be able to pay Employees their wages, salary or commission by cheque or by bank transfer. |
| Rationale | In order to ensure that employees are paid on time by their preferred payment method(bank transfer) |
| Dependencies | 2002,2004 |

### EmpPBH Functions

Employees paid by the hour will be able to to login to the system to enter their daily time record.

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| --- | --- |
| Requirement No. | 3000 |
| Title | User Login |
| Description | Employees will be able to login to the system using their employee number and a password |
| Rationale | The employee must login so that they can update their work details |
| Dependencies | 2007 |

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| Requirement No. | 3001 |
| Title | Record daily hours |
| Description | Employees who are paid by hour will be able to enter a record of the hours they worked |
| Rationale | The employee must enter the hours they have worked in order to be paid correctly for them |
| Dependencies | 3000 |

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| Requirement No. | 3002 |
| Title | User Logout |
| Description | Employees will be able to logout of the system |
| Rationale | Employees must be able to logout of the system for security reasons |
| Dependencies | 3000 |

### Emp PBC Functions

Employees paid by salary and commission will be able to login to the system to record their daily sales.

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| Requirement No. | 4000 |
| Title | User Login |
| Description | Employees will be able to login to the system using their employee number and a password |
| Rationale | The employee must login so that they can update their work details |
| Dependencies | 2007 |

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| Requirement No. | 4001 |
| Title | Record daily sales |
| Description | Employees who are paid by commission will be able to enter a record of their daily sales |
| Rationale | The employee must record their sales so that their commission can be calculated |
| Dependencies | 4000 |

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| Requirement No. | 4002 |
| Title | User Logout |
| Description | Employees will be able to logout of the system |
| Rationale | Employees must be able to logout of the system for security reasons |
| Dependencies | 4000 |

### Emp PBFS Functions

Employees paid by Flat salary will be able to login to the system.

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| Requirement No. | 5000 |
| Title | User Login |
| Description | Employees will be able to login to the system using their employee number and a password |
| Rationale | The employee must login so that they can update their work details |
| Dependencies | 2007 |

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| Requirement No. | 5001 |
| Title | User Logout |
| Description | Employees will be able to logout of the system |
| Rationale | Employees must be able to logout of the system for security reasons |
| Dependencies | 5000 |

### System Functions

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| Requirement No. | 6000 |
| Title | Employee classification |
| Description | The system will distinguish employees into class A (Paid By Hour), B (Paid By Flat Salary) and C (Paid by Salary and Commission) groups. |
| Rationale | Employees will be distinguished so that their wages can be calculated. |
| Dependencies | - |

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| Requirement No. | 6001 |
| Title | Calculate wage |
| Description | The system will calculate wages using employee id, class, hours worked (where relevant), commission rate (where relevant), overtime rate (where relevant) and union (where relevant) |
| Rationale | Wages will be calculated so that each employee can be paid their appropriate wages |
| Dependencies | 6000, 3002, 4001 |

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| Requirement No. | 6002 |
| Title | Class A employee wage |
| Description | Class A employee wages will be calculated for the hours worked, plus any overtime, minus tax and union deductions |
| Rationale | Wages will be calculated so that each employee can be paid their appropriate wages |
| Dependencies | 6000, 6001, 3002 |

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| Requirement No. | 6003 |
| Title | Class B employee wage |
| Description | Class B employee wages will be calculated at a flat rate minus tax and union deductions |
| Rationale | Wages will be calculated so that each employee can be paid their appropriate wages |
| Dependencies | 6000, 6001 |

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| Requirement No. | 6004 |
| Title | Class C employee wage |
| Description | Class C employee wages will be calculated at the flat rate plus commission minus tax and union charges |
| Rationale | Wages will be calculated so that each employee can be paid their appropriate wages |
| Dependencies | 6000, 6001, 4001 |

# Non Functional Requirements

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| Requirement No. | 7000 |
| Title | System Availability |
| Description | The system will be available at every computer terminal connected to the company network |
| Rationale | Employees will be access the system from their work stations |
| Dependencies | - |

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| Requirement No. | 7001 |
| Title | System up time |
| Description | The system will be available 24/7 days with the exception of updates categorised in 6008 |
| Rationale | Employees will be able to record the accurate hours they spend at work |
| Dependencies | - |

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| Requirement No. | 7002 |
| Title | Tax Calculation |
| Description | The system will calculate Tax under the guidelines as set out in “Calculation of Tax Under the PAYE system” circular from the Revenue commissioners |
| Rationale | To satisfy legal requirements |
| Dependencies | - |

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| Requirement No. | 7003 |
| Title | System Compatibility |
| Description | The system shall operate on both Windows 7 and Windows 8 Operating Platforms |
| Rationale | The company currently uses Windows 7 and Windows 8 OS. To save on costs these Operating Systems must be supported |
| Dependencies | - |

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| Requirement No. | 7004 |
| Title | Training Employees |
| Description | The employee shall require no longer than 1.5 hours training on the system |
| Rationale | The companies training budget has been restricted so the system should not require extensive training |
| Dependencies | - |

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| Requirement No. | 7005 |
| Title | System Maintenance |
| Description | Software Updates shall take place outside business hours (8pm+) |
| Rationale | In order to ensure that AIT Inc employees and managers are not left without access to the system within normal business hours |
| Dependencies | - |

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| Requirement No. | 7006 |
| Title | System Access |
| Description | The system shall only be accessible from company PC's inside the organisation |
| Rationale | For security this ensures that employee updates are only made during working hours |
| Dependencies | - |

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| Requirement No. | 7007 |
| Title | Compatibility with existing Power Backup System |
| Description | The system shall be compatible with the existing on site power backup system. |
| Rationale | In the event of power failure the system integrity shall be preserved. |
| Dependencies | - |

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| Requirement No. | 7008 |
| Title | System Performance |
| Description | The system shall take no longer than 15 seconds to open on initially opening the application icon |
| Rationale | The system has to have a short boot up time to facilitate quick access by management and staff alike. |
| Dependencies | - |