|  |
| --- |
|  |
|  |

**HLD Title: CDAC GIST**

**Phase 1.2 – Book Stock Management**

|  |  |  |  |
| --- | --- | --- | --- |
|  | | | |
| Prepared by | **Role** | **Change Date** | **Comments** |
| Shweta | Business Analyst | 01-July-2017 |  |
| Owned by | Designation & Contact | Change Date | Comments |
| Sanjay | Functional Consultant |  |  |
| Authorised by | Designation & Contact | Change Date | Comments |
| Susan Alex |  |  |  |
| Reviewer’s Name | Role | Change Date | Comments |
| Sunil | Technical Consultant |  |  |
| Sanjay | Functional Consultant |  |  |

**Do Not Copy**

**Hard Copies of this document are for Reference Only for most recent please visit** [**http://softctrl.in**](http://softctrl.in)**.**

Contents

[1 Introduction 3](#_Toc488532978)

[1.1 Introduction 3](#_Toc488532979)

[1.1.1 Out of scope 3](#_Toc488532980)

[1.2 Requirements 3](#_Toc488532981)

[2 RAID 3](#_Toc488532982)

[2.1 Risks - NA 3](#_Toc488532983)

[2.2 Assumptions - NA 3](#_Toc488532984)

[2.3 Issues 4](#_Toc488532985)

[2.4 Design Decisions & Constraints 4](#_Toc488532986)

[3 Static Design 4](#_Toc488532987)

[3.1 Static Architecture 4](#_Toc488532988)

[3.2 Data Model 5](#_Toc488532989)

[3.2.1 CDAC Book Requests: 5](#_Toc488532990)

[3.2.2 ARC Book Requests 6](#_Toc488532991)

[4 Dynamic Design 8](#_Toc488532992)

[4.1 Use Cases and solution 8](#_Toc488532993)

[4.1.1 CDAC Book Order 8](#_Toc488532994)

[4.1.2 ARC Book Requests 8](#_Toc488532995)

[5 Non Functional 9](#_Toc488532996)

# Introduction

## Introduction

This module covers book stock management across all the entities.

If CDAC feels the need to order for more book printing, CDAC requests print house to print the books/materials. Which will be referred to as CDAC Book Order in this document. CDAC can set the threshold for any book counts and if the number of current stock reaches the preset threshold, a notification will be sent to CDAC admin and CDAC can decide whether to request for more books and what can be the expected delivery date for the same.

When ARC feels the need to request for more books from CDAC, its managed under ARC Book Request sub-module.

When new ATCs get registered either under ARC or under CDAC, and when new students start enrolling for courses, ATC will need to request books for the respective course/module they teach to their respective parent entity. When a book request is made, the request will go to parent entity and parent entity will dispatch the books.

### Out of scope

If mode of delivery of books is via courier, then courier management is out of scope of this design. Its covered in a separate Courier Management Module.

Any new book printing which has no Book ID created yet is out of scope of this solution.

## Requirements

* CDAC requesting print house to print books. Referred to as CDAC Book Orders.
* ARC requesting books from CDAC
* ATC requesting books from CDAC (If parent entity of ATC is CDAC)
* ATC requesting books from ARC (If parent entity of ATC is ARC)
* Student enrollment and book distribution.

# RAID

## Risks - NA

|  |  |  |
| --- | --- | --- |
| **Reference** | **Description** | **Mitigation** |
| R\_01 |  |  |
|  |  |  |
|  |  |  |

## Assumptions - NA

|  |  |
| --- | --- |
| **Reference** | **Description** |
| A\_01 | Unit rate of book printing is entered for every order made to print house and there is no book printing charge management module required. |
| A\_02 |  |
| A\_03 |  |

## Issues

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Reference** | **Description** | **Resolution** | **Owner** | **Status** |
| I\_01 | What is the number of requests sent to print house every year? |  | CDAC | Open |
| I\_02 | How many average requests CDAC receives from ARCs/ATCs every year? |  | CDAC | Open |
| I\_03 |  |  |  |  |

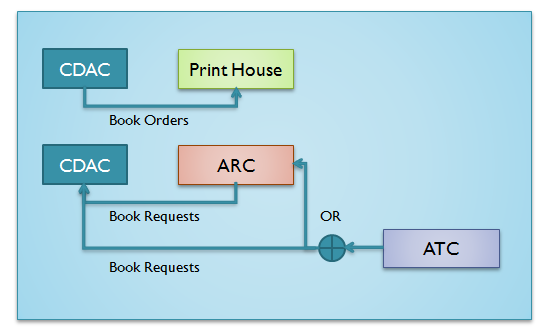
## Design Decisions & Constraints

|  |  |
| --- | --- |
| **Reference** | **Description** |
| D\_01 |  |

# Static Design

## Static Architecture

Modules and hierarchy of Modules:



## Data Model

### CDAC Book Requests:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | CDAC request order |  |  | | **Column Name** | **Mandatory/Optional** | **Comments** | | Order Code | M | Manually enter Book print order reference | | Book Code | M | Select from drop down | | Requested Count | M | Enter number of books to be printed | | Requested Date | M | Enter when Order was sent to Print house | | Unit Rate | O | Enter current Unit rate that Print house charges per book printing | | Order Cost | O | Enter total Order cost for all book printing | | Request Status | M | Select value – Requested | | Expected Delivery Date | O | Set expected delivery date of books from Print house | |  |  |

|  |  |  |
| --- | --- | --- |
| CDAC Cancel Order |  |  |
| Order Code | RO | Read only |
| Book Code | RO | Read only |
| Requested Count | RO | Read only |
| Requested Date | RO | Read only |
| Request Status | M | Update status to Cancelled |

|  |  |  |
| --- | --- | --- |
| CDAC Order Received |  |  |
| Order Code | RO | Read only |
| Book Code | RO | Read only |
| Requested Count | RO | Read only |
| Requested Date | RO | Read only |
| Expected Delivery Date | RO | Read only. Refer this date and actual delivery date to spot the delay. |
| Request Status | M | Update status to Received |
| Received Count | M | Update how many books have been received in good condition |
| Actual Delivery Date | M | When was order received. |
| Reason For Loss | O | Enter the reason for descrepancies. |
| Comment | O | Add comment if any |

P.S: RO – Read Only, O – Optional, M - Mandatory

### ARC Book Requests

|  |  |  |
| --- | --- | --- |
| ARC Book Requests |  |  |
| **Column Name** | **Mandatory/Optional** | **Comments** |
| Book Code | M | Select Book code from dropdown |
| Requested Count | M | Add number of books being requested |
| Request Status | M | Select Status as – Requested |
| Requested Date | M | Add date of request |
| Expected Date | O | Add if you are expecting books on or before any particular date |

|  |  |  |
| --- | --- | --- |
| CDAC Book Request updates |  |  |
| **Column Name** | **Editable/Readonly** | **Comments** |
| Order Code | RO | Read only |
| Book Code | RO | Read only |
| Requested Count | RO | Read only |
| Request Status | RO | Read only |
| Requested Date | RO | Read only |
| Expected Date | RO | Read only |
| Dispatched Count | M | Enter the count of books dispatched |
| Dispatched Date | M | Enter date of dispatch |
| Delivery Mode | O | Allowed values: Manual/Courier |
| Delivery Reference | O | If It is Courier: Enter Docket Number |
| Request Status | M | Update the status to - Dispatched |
| Comments | O | Add comments if any. DO not erase previous comments but amend. |

|  |  |  |
| --- | --- | --- |
| ARC Updates/closes book request |  |  |
| **Column Name** | **Editable/Readonly** | **Comments** |
| Order Code | RO | Read only |
| Book Code | RO | Read only |
| Requested Count | RO | Read only |
| Request Status | RO | Read only |
| Requested Date | RO | Read only |
| Expected Date | RO | Read only |
| Dispatched Count | RO | Read only |
| Dispatched Date | RO | Read only |
| Delivery Mode | RO | Read only |
| Delivery Reference | RO | Read only |
| Received Count | M | Enter the count of books received in good condition |
| Received Date | M | Enter the date when the books were received |
| Discrepancy Reason | O | Select the reason from dropdown for discrepancy in books requested and book received in good condition. |
| Comments | O | Add comments if any. DO not erase previous comments but amend. |

### ATC Book Requests:

|  |  |  |
| --- | --- | --- |
| ATC Book Requests |  |  |
| **Column Name** | **Mandatory/Optional** | **Comments** |
| Book Code | M | Select Book code from dropdown |
| Requested Count | M | Add number of books being requested |
| Request Status | M | Select Status as – Requested |
| Requested Date | M | Add date of request |
| Expected Date | O | Add if you are expecting books on or before any particular date |

|  |  |  |
| --- | --- | --- |
| CDAC Book Request updates |  |  |
| **Column Name** | **Editable/Readonly** | **Comments** |
| Order Code | RO | Read only |
| Book Code | RO | Read only |
| Requested Count | RO | Read only |
| Request Status | RO | Read only |
| Requested Date | RO | Read only |
| Expected Date | RO | Read only |
| Dispatched Count | M | Enter the count of books dispatched |
| Dispatched Date | M | Enter date of dispatch |
| Delivery Mode | O | Allowed values: Manual/Courier |
| Delivery Reference | O | If It is Courier: Enter Docket Number |
| Request Status | M | Update the status to - Dispatched |
| Comments | O | Add comments if any. DO not erase previous comments but amend. |

|  |  |  |
| --- | --- | --- |
| ARC Book Request updates |  |  |
| **Column Name** | **Editable/Readonly** | **Comments** |
| Order Code | RO | Read only |
| Book Code | RO | Read only |
| Requested Count | RO | Read only |
| Request Status | RO | Read only |
| Requested Date | RO | Read only |
| Expected Date | RO | Read only |
| Dispatched Count | M | Enter the count of books dispatched |
| Dispatched Date | M | Enter date of dispatch |
| Delivery Mode | O | Allowed values: Manual/Courier |
| Delivery Reference | O | If It is Courier: Enter Docket Number |
| Request Status | M | Update the status to - Dispatched |
| Comments | O | Add comments if any. DO not erase previous comments but amend. |

|  |  |  |
| --- | --- | --- |
| ATC Updates/closes book request |  |  |
| **Column Name** | **Editable/Readonly** | **Comments** |
| Order Code | RO | Read only |
| Book Code | RO | Read only |
| Requested Count | RO | Read only |
| Request Status | RO | Read only |
| Requested Date | RO | Read only |
| Expected Date | RO | Read only |
| Dispatched Count | RO | Read only |
| Dispatched Date | RO | Read only |
| Delivery Mode | RO | Read only |
| Delivery Reference | RO | Read only |
| Received Count | M | Enter the count of books received in good condition |
| Received Date | M | Enter the date when the books were received |
| Discrepancy Reason | O | Select the reason from dropdown for discrepancy in books requested and book received in good condition. |
| Comments | O | Add comments if any. DO not erase previous comments but amend. |

# Dynamic Design

## Use Cases and solution

### CDAC Book Order

|  |  |
| --- | --- |
| Description | CDAC requests Print house for book printing |
| Pre-Condition(s) | CDAC wishes to print more books. |
| Post-Condition(s) | CDAC receives printed books and a credit log is created and stock updated. |
| Main Path | 1. CDAC admin logs in and goes to Order Menu. 2. Admin creates a record for book printing of an existing book from repository. 3. List of attributes to be filled given in the above [section](#_CDAC_Book_Requests:) 4. CDAC receives printed books from print house. 5. Fields to be updated: [Section](#_CDAC_Order_Received) 6. Once status of the record is updated as ‘Received’ and record is saved, a log is created in CDAC Book Order Logs table as Books credited. 7. Total stock will be presented from this table deducting the Books dispatched to ARC/ATC. [Refer to section below.](#_ARC_Book_Requests_1) |
| Alternate Path 1 | 2. If it’s a new book, create a record in Book Menu and then order for book printing. |
| Alternate Path n | 4. CDAC wants to cancel the order  5. Fields to be updated: [Section](#_CDAC_Cancel_Order) |

### ARC Book Requests

|  |  |
| --- | --- |
| Description | ARC requests CDAC for more books |
| Pre-Condition(s) | ARC decides to requests for more books from CDAC |
| Post-Condition(s) | ARC receives printed books and a credit log is created and stock updated. |
| Main Path | 1. ARC admin logs in and goes to Requests Menu. 2. Admin creates a record for book request of an existing book from repository. 3. List of attributes to be filled given in the above [section](#_ARC_Book_Requests) 4. CDAC Admin gets a notification of the book request and dispatches and updates the required fields : [Section](#_CDAC_Book_Request) 5. Refer to Admin(CDAC) Notification Module for more details 6. ARC receives printed books from CDAC. 7. Fields to be updated: [Section](#_ARC_Updates/closes_book) 8. Once status of the record is updated as ‘Received’ and record is saved, a log is created in ARC Book Order Logs table as Books credited. 9. Total stock will be presented from this table deducting the Books dispatched to ATC. Refer to section below. |
| Alternate Path 1 | 2. if Admin doesn’t find the book in the drop down, an issue needs to be raised to CDAC about the same to create a book record. |
| Alternate Path n |  |

### ATC Book Requests

|  |  |
| --- | --- |
| Description | ATC requests parent entity for more books |
| Pre-Condition(s) | ATC decides to requests for more books from CDAC |
| Post-Condition(s) | Parent entity receives printed books and a credit log is created and stock updated. |
| Main Path | 1. ATC admin logs in and goes to Requests Menu. 2. Admin creates a record for book request of an existing book from repository. 3. List of attributes to be filled given in the above [section](#_ATC_Book_Requests) 4. ARC Admin gets a notification of the book request and dispatches and updates the required fields : [Section](#_ARC_Book_Request) 5. Refer to Admin(ARC) Notification Module for more details 6. ARC dispatches books and once status is updated to ‘Dispatched’ a debit log is created in ARC Book stock log table which will help calculate the current ARC book stock. 7. ATC receives books from ARC. 8. Fields to be updated: [Section](#_ARC_Updates/closes_book_1) 9. Once status of the record is updated as ‘Received’ and record is saved, a log is created in ATC Book Order Logs table as Books credited. 10. Total stock will be presented from this table deducting the Books dispatched to ATC. Refer to section below. |
| Alternate Path 1 | 4. CDAC Admin receives a request if ATC parent entity is CDAC.   1. CDAC Admin gets a notification of the book request and dispatches and updates the required fields : [Section](#_CDAC_Book_Request_1) 2. Refer to Admin(CDAC) Notification Module for more details 3. CDAC dispatches books and once status is updated to ‘Dispatched’ a debit log is created in CDAC Book stock log table which will help calculate the current ARC book stock. 4. ATC receives books from ARC. 5. Fields to be updated: [Section](#_ARC_Updates/closes_book_1) 6. Once status of the record is updated as ‘Received’ and record is saved, a log is created in ATC Book Order Logs table as Books credited.   Total stock will be presented from this table deducting the Books dispatched to ATC. Refer to section below. |
| Alternate Path n | 2. if Admin doesn’t find the book in the drop down, an issue needs to be raised to CDAC about the same to create a book record. |

### ATC Student enrollment and book distribution

|  |  |
| --- | --- |
| Description | Student enrolls for a course. |
| Pre-Condition(s) | Student is enrolled and a record is created in the system |
| Post-Condition(s) | ATC book stock is updated. |
| Main Path | 1. Student is enrolled for a course and he/she collects a book. 2. ATC Book stock management log gets a record as debit and book count is deducted from the book stock. |
| Alternate Path 1 |  |
| Alternate Path n |  |

# Non Functional

*Number of requests to print house every year:*

*Number of requests to CDAC from ARC/ATCs every year.*

# 