LIBRARY MANAGEMENT SYSTEM

Final Report

Mentor- Dr.Rukshima Dabare

Submitted by: Cluster 1 Group 1.4

Free Thinkers

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Open University of Sri Lanka

Library Management System Software Design Project

Final Report

Submitted by

Group 1.4
Freethinkers

Under the supervision

Dr.Rukshima Dabare

Approved for Submission on 03/12/2023

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Date

Signature

Table of Contents

1.Introduction 4

1.1 Background 4

2.Problem Statement 5

2.1 Project Objectives 5

3. Introduction to Similar Type of Systems 6

4. Project Solution (Main Use case diagram) 7

5. Technology Used 8

6. Design Document 9

6.1 Use Case Diagram 9

6.4 ER Diagram 10

7. Test Case Document and Test Results 11

7.1 UI Test Case 11

7.2 Functional Test Case 12

8. Project Limitation and Conclusion 14

9. Demonstrations 15

Appendix 17

1. **Updated SRS** 17
2. **Monthly Retrospective** 18
3. **Project Governance Tool** 19
4. **GIT Account** 20
5. **CMMI Meeting Minutes** 21
6. **Test Case** 24
7. **UI test cases** 24
8. **Functional test cases** 27
9. **Reflective journal** 29
10. **Class diagram** 29
11. **Activity diagram** 29
12. **Architectural diagram** **29**

1.Introduction

The Library Management System project's final report represents the outcome of a challenging and collaborative development process. This document summarizes the system's evolution, documenting its design, functioning, and strict evaluation procedures. The final report requires to present a detailed overview of the revised library management system as a structure to the project team's collaborative effort. It goes into the complexities of organizational functional entities, highlighting their relationships and interactions.

We provide a section to the Technologies Used as we progress through the report, focusing into the backend tools that shape our database design and the frontend technologies that help us create a user-friendly experience. The Design Document component begins with a series of diagrams, including a Use Case, Class, Activity, and ER diagram, as well as a full overview of the system's architecture via a Block Diagram. These diagrams provide a clear roadmap of our design decisions, ensuring system comprehension.

1.1Background

The Library Management System Project Final Report Documents contain complete documentation and source codes required for the development of the software configuration. It continues to reveal essential diagrams such as the Architectural diagram, ER Diagram, and UML diagrams, which are used to build the Library Management System's structures and behavioral elements. These diagrams serve as a model for the system's ultimate iteration, showing both an abstract representation of the database and user interactions with the application. These documents, like the Intermediate report, remain the foundation for system design and project creation. The Final Report includes the basic aspects of the Library Management System, from its conceptual foundations to the detailed documentation and source codes required for its creation.

2.Problem Statement

Traditional library management systems have a frequent problem by inefficiencies and problems that limit their capacity to provide maximum services. These challenges include time-consuming manual operations, difficulties managing the entire book supply by category, difficulties generating and updating catalogs, and difficulties tracking book movement and assuring their security. Furthermore, a lack of user-friendly interfaces and fast search capabilities might cause delays in book retrieval and negatively impact the entire user experience. The lack of a streamlined system also makes monitoring library activity and guaranteeing data security challenging.

2.1 Project Objectives

1. Objective 1: Implement User and Admin Authentication System
    - Specific: Develop a secure login system for both users and administrators using HTML, CSS, JavaScript, PHP, and MySQL.
    - Measurable: Achieve a login success rate of 95%.
    - Achievable: Implement industry-standard authentication protocols to ensure data security.
    - Relevant: Enhance the system's security and restrict access to authorized individuals.
    - Time-bound: Complete the authentication system within the first month of the project.
2. Objective 2: Design and Implement Responsive User Interface
    - Specific: Create a responsive and intuitive user interface for the Library Management System using HTML, CSS, and JavaScript.
    - Relevant: Improve user experience by providing a visually appealing and easy-to-navigate interface.
    - Time-bound: Complete the design and implementation of the responsive UI within two months.
3. Objective 3: Develop Core Functionalities for Admin and User Management
    - Specific: Implement core features such as book reservation, issuing, returning, user management, and account management for both admins and users.
    - Measurable: Ensure that admins can perform book-related tasks efficiently, and users can easily manage their accounts.
    - Achievable: Utilize PHP and MySQL to establish a robust backend for handling transactions and data management.
    - Relevant: Enhance the overall library management process for administrators and users.

3. Introduction to Similar Type of Systems

Spears

Spears emerges as a strong library management system, combining ease of use with advanced features to improve library activities. Its straightforward search interface makes it approachable to users of all skill levels, encouraging a user-friendly atmosphere. Spears keeps an exact record of all book information, so that librarians have a complete picture of their collection. Spears' versatility and configurability allow it to adapt to the unique needs of distinct libraries, providing a customized approach to management. Spears compensates for the lack of bar-code scanning with a simple and clear design that focuses on fundamental elements that lead to effective library administration.

Accessit

Accessit is an innovative library management system that promotes ease of use and efficiency. Accessit, with its simple search interface, ensures that users may easily explore the library's resources. It excels at maintaining detailed records of book information, giving librarians with a powerful collection management tool. The system's adaptability and configurability meet the different needs of educational institutions. Significant is Accessit's commitment to live help, which provides users and administrators with immediate assistance. Eduflex Eduflex enters the library management sector with an emphasis on customization and complete support.

Eduflex

Ensures a comprehensive and user-friendly experience by providing a straightforward search interface that caters to all users. It keeps detailed records of book metadata, giving librarians a complete picture of their collections. Eduflex's flexibility and configurability are intended to fulfill the specific needs of educational institutions. Notably, Eduflex distinguishes itself with live support, guaranteeing that users receive prompt assistance when needed. While bar-code scanning is not available, Eduflex's commitment to quick service distinguishes it as a solid and user-centric solution for effective library administration

4. Project Solution (Main Use case diagram)

The main use case diagram addresses the identified problems by presenting a visual representation of how different actors interact with the system to perform actions that collectively solve the problems. The library management system aims to provide an efficient and user-friendly solution to the challenges.

- Problem: Determining complete book stock by category was time-consuming.

Solution (Use Case): The system facilitates librarians to perform actions such as "Add Books" and "Update Catalog." These actions contribute to efficient inventory management, allowing quick updates to the book stock by category.

- Problem: Librarians and staff faced extra time and effort requirements.

Solution (Use Case): The use case diagram includes actions like "Issue Books," "Return Books," and "Update Catalog" for librarians. Automation of these processes reduces the workload and time constraints, enhancing the efficiency of library operations.

- Problem: sometimes difficult to tell if the books have been stolen or damaged.

Solution (Use Case): The "Issue Books" and "Return Books" actions for registered users are represented in the diagram. These actions contribute to improved security by tracking the status of books, making it easier to identify misplaced or potentially stolen items.

- Problem: Ensuring secure access for registered users and librarians.

Solution (Use Case): The diagram includes an "Authentication Process" ensuring that only authenticated and authorized users gain access to the system. This security measure verifies user identity and grants appropriate access rights based on their role, safeguarding the system from unauthorized use.

5. Technology Used

PhpMyAdmin allows for the creation and configuration of databases and tables through its intuitive interface. This is relevant to the library management system for setting up and maintaining the necessary database structures to store information about books, users, reservations, and requests. phpMyAdmin provides a graphical user interface (GUI) that simplifies the management of the MySQL database. This is particularly useful for non-technical users or administrator. PhpMyAdmin facilitates the backup and restoration of databases, allowing administrators to safeguard the library management system's data. The use of Visual Studio Code (VS Code) in our library management system project is motivated by its lightweight and efficient performance, making it conducive to the development of a user-friendly and responsive system. Visual Studio Code enabled our team to collaborate effectively, enabling the project's seamless growth.

PHP is a server-side scripting language that runs on the web server instead of the user's browser. This feature enables robust server-side processing, easing database interfaces and handling activities like form submissions. Furthermore, PHP enables dynamic content generation based on user input, database queries, and conditional logic. Through PHP, the code dynamically generates HTML content, presenting information such as book requests and user details in response to various conditions and user interactions.

MySQL is chosen for its ability to organize data in structured tables, ensuring data integrity and consistency through features like primary keys, foreign keys, and constraints. The system benefits from the relational model, allowing it to store and retrieve information about books, users, reservations, and requests in a structured manner. phpMyAdmin, a web-based administration tool, simplifies the management of the MySQL database by providing a graphical interface for tasks such as creating tables, executing SQL queries, and maintaining database structures.

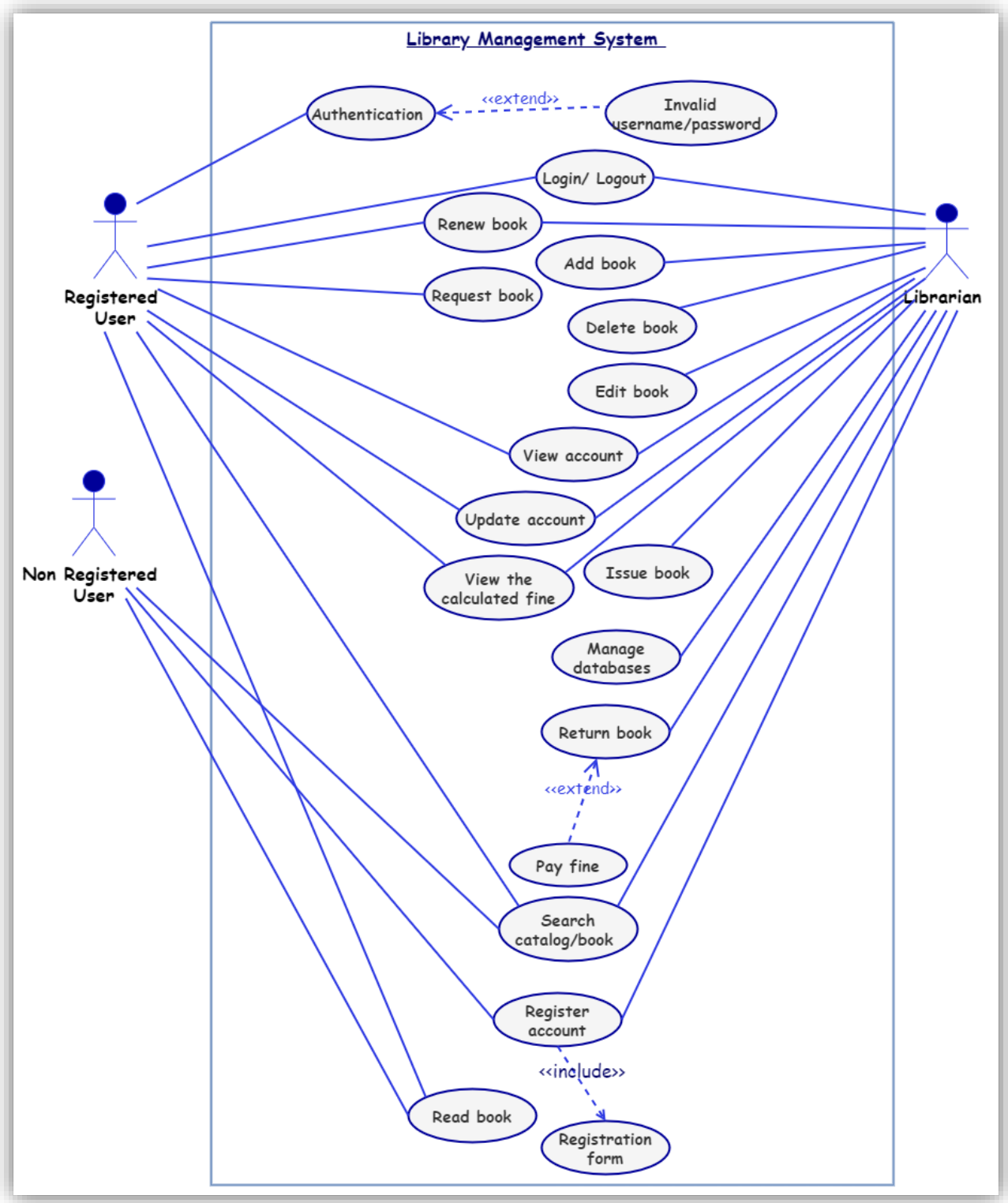
HTML (HyperText Markup Language)**:** HTML is used to create the structure of the web pages in our system. It defines the layout and organizes the content, including tables for displaying book requests, user details, and other relevant information.

CSS is employed to style and format the HTML elements, enhancing the visual presentation of the BOOKINFORCE system.

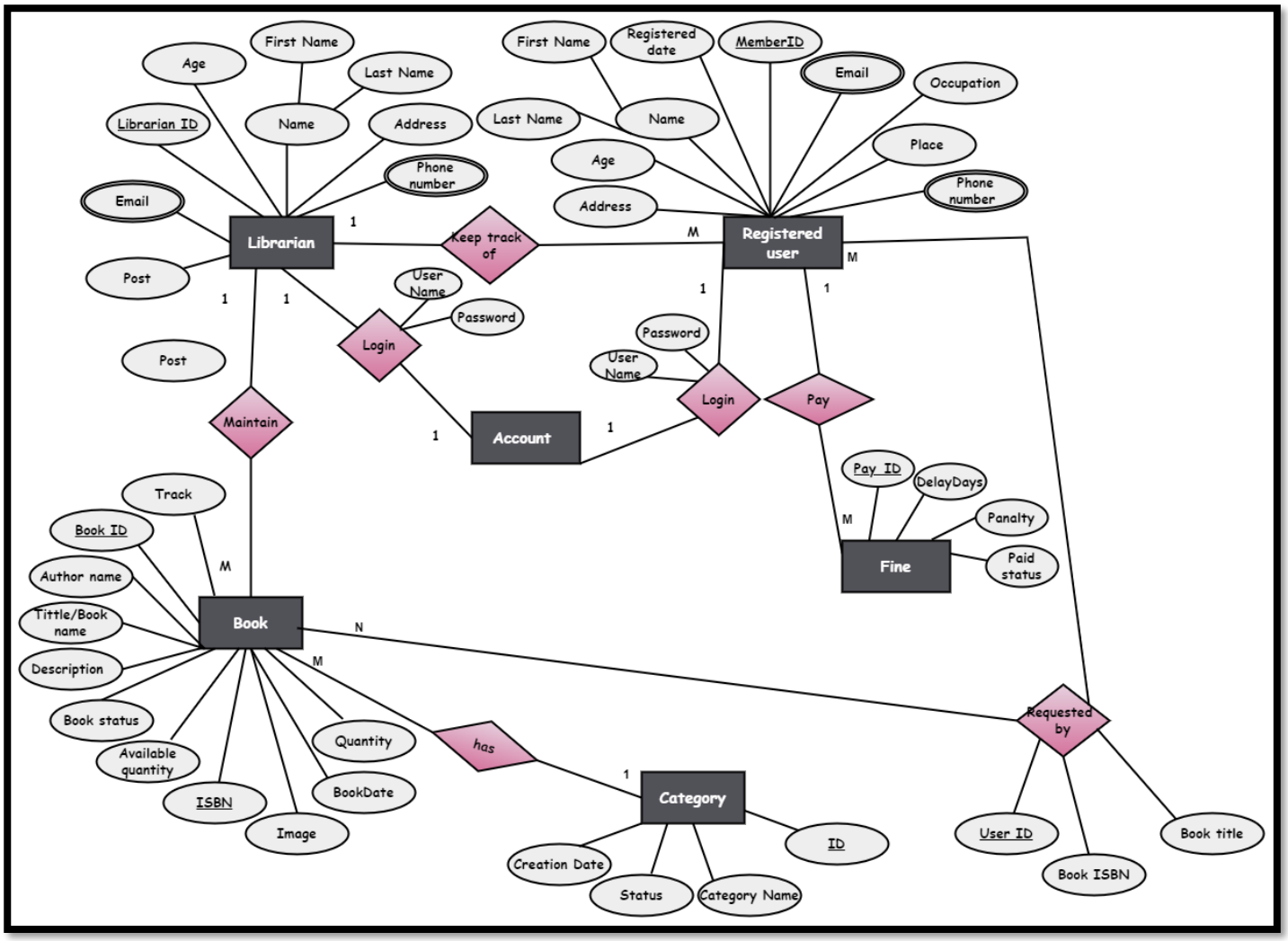
JavaScript is most likely used to provide interactivity and improve the user experience. Form validation, dynamic content updates, and handling user interactions without requiring a page reload are all possible use cases. The usage of JavaScript can contribute to a more responsive and dynamic interface for our library management system users.

6. Design Document

6.1 Use Case Diagram



6.2 ER Diagram



7. Test Case Document and Test Results

7.1 UI Test Case

Quality Assurance Test Cases (QATC)

Author:	Free Thinkers
Date Created:	17/11/2023
Last Updated:	22/11/2023
Version:	1
Environment:	Windows10
Release/Build:	Sprint 2
Functional Group:	

Test Cases Summary	**Count**
Pass	32
Fail	0
On Hold	0
Not Executed	0
Not Applicable	1
Total Test Cases	**33**

Revision & Execution History

Test Case ID	Feature Description	Prerequisites	Test Description (test steps)	Input Data	Expected Result	Test Results	Test Case Type	Severity
UI								
Home Page								
HM_UI001	Verify the Home Page Layout	Visit the website	Click on the short cut icon.Verify the layout of the home page including header, navigation,search bar, and footer.	N\A	User should be able to display home page with header footer search bar and footer correctly	Pass	UI	High
Search form								
SF_UI001	Verify whether the user can enter the required text in the search box.	Visit the website	Click on the search field . Enter the text.	N\A	User should able to enter the required text in the search box	Pass		
SF_UI006	Verify the user can click the Search button	Visit the website	Click on the search field . Click on search button	N\A	User should able to Click the search button	Pass		
Login form								
Lg_UI001	Verify that the login screen contains elements such as email, Password, login button	Visit the website	Click on the navigation menu.	N\A	User should be able to display the login form with email, password and login button fields to add.	Pass	UI	High
Lg_UI005	Verify that the application's user interface (UI) is responsive.	Visit the website	Click on the navigation menu.	N\A	User should be able to adapt to different screen resolutions and devices.	Pass		
Add Book form								
AB_UI001	Verify to navigate the lay out of the Add book form	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar	N\A	User should be able to see the Addbook form with input fields	Pass	UI	High
Request book page								
RQB_UI001	Verify the display lay out of the request book table	Visit the website	Admin Login to the system. Observe the dashboard Click the request book in sidebar Observe the reuest book page	N\A	Admin should be able to see request book layout with text fields	Pass	UI	High
Issue book page								
IB_UI001	Verify the display lay out of the request book table	Visit the website	Admin Login to the system. Observe the dashboard Click the issue book in sidebar Observe the issue book page	N\A	The "Issue Book" form with a table should be displayed	Pass	UI	High
issued Book page								
ISB_UI001	Verify the display lay out of the to issued book table	Visit the website	Admin Login to the system. Observe the dashboard Click the issued book in sidebar Observe theissued book page	N\A	The "Return Book" form should be displayed with a table of issued books	Pass	UI	High
profile page								
P_UI001	Verify the Navigate to the "Profile" section	Visit the website	User Login to the system. Observe the dashboard Click theprofile in sidebar Observe the profile page	N\A	The user's profile details and an option to upload a photo should be displayed	Pass	UI	High

Quality Assurance Test Cases (QATC)

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Search form								
SF_UI006	Verify the user can click the Search button	Visit the website	Click on the search field . Click on search button	N\A	User should able to Click the search button	Pass		
Login form								
Lg_UI005	Verify that the application's user interface (UI) is responsive.	Visit the website	Click on the navigation menu.	N\A	User should be able to adapt to different screen resolutions and devices.	Pass		
Add Book form								
AB_UI001	Verify to navigate the lay out of the Add book form	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar	N\A	User should be able to see the Addbook form with input fields	Pass	UI	High
Request book page								
RQB_UI001	Verify the display lay out of the request book table	Visit the website	Admin Login to the system. Observe the dashboard Click the request book in sidebar Observe the reuest book page	N\A	Admin should be able to see request book layout with text fields	Pass	UI	High
Issue book page								
IB_UI001	Verify the display lay out of the request book table	Visit the website	Admin Login to the system. Observe the dashboard Click the issue book in sidebar Observe the issue book page	N\A	The "Issue Book" form with a table should be displayed	Pass	UI	High
issued Book page								
ISB_UI001	Verify the display lay out of the to issued book table	Visit the website	Admin Login to the system. Observe the dashboard Click the issued book in sidebar Observe theissued book page	N\A	The "Return Book" form should be displayed with a table of issued books	Pass	UI	High
profile page								
P_UI001	Verify the Navigate to the "Profile" section	Visit the website	User Login to the system. Observe the dashboard Click theprofile in sidebar Observe the profile page	N\A	The user's profile details and an option to upload a photo should be displayed	Pass	UI	High

7.2 Functional Test Case

Quality Assurance Test Cases (QATC)

Author:	Free Thinkers
Date Created:	17/11/2023
Last Updated:	22/11/2023
Version:	1
Environment:	Windows 10
Release/Build:	Sprint 2
Functional Group:	

Test Cases Summary	**Count**
Pass	21
Fail	0
On Hold	0
Not Executed	1
Not Applicable	1
Total Test Cases	**23**

Revision & Execution History

Test Case ID	Feature Description	Prerequisites	Test Description (test steps)	Input Data	Expected Result	Test Results	Test Case Type	Severity
Functional								
Login form								
Lg_F001	Verify that Enter/Tab key works as a substitute for the Login button	Visit the website	Click on the navigation menu. Enter the login details.	N\A	User should be able to navigate to the Dashboard	Pass	Functional	High
Lg_F010	Verify that the logout link is redirected to login/home page	Visit the website	Click on the sidebar click the Logout Button	N\A	User should be able to redirect to Home Page	Pass		
search form								
SF_F001	Verify the 'Search button' functionality in the prison Search form	Visit the website	Click on the Search button	N\A	User should be navigated to the results form.	Pass	Functional	High
Add Book form								
AB_F001	Verify the 'Save button ' of Add book form is added the book details to database	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in	N\A	User should be able to see the book details in vie book page	Pass	Functional	High

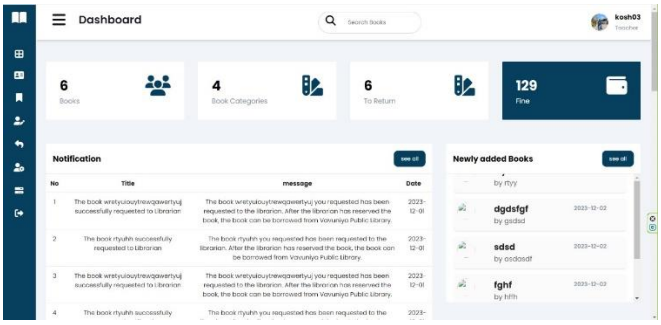
			sidebar Observe the add book page click the Save button					
Request book page								
RQB_F001	Verify the book requested is successfully requested	Visit the website	Admin Login to the system. Observe the dashboard Click the Request book in sidebar Observe the request book page	N\A	Admin should be able to see the new request book details in requested page	Pass	Functional	High
issue book page								
IB_F001	Verify the Confirm Issuing Book	Visit the website	Admin Login to the system. Observe the dashboard Click the issue book in sidebar Observe the issue book page Click confirm button	N\A	admin should be able to issued book, and the record should move to the issued_book table	Pass	Functional	Medium
Issued Book page								
ISB_F001	Verify the correct number of days late is displayed	Visit the website	Admin Login to the system. Observe the dashboard Click the issued book in sidebar Observe theissued book page	N\A	Days late should be accurate based on the return date	Pass	Functional	Medium
ISB_F002	Verify the correct fine amount is displayed	Visit the website	Admin Login to the system. Observe the dashboard Click the issued book in sidebar Observe theissued book page		Fine amount should be accurate based on the number of days late	Pass		

8. Project Limitation and Conclusion

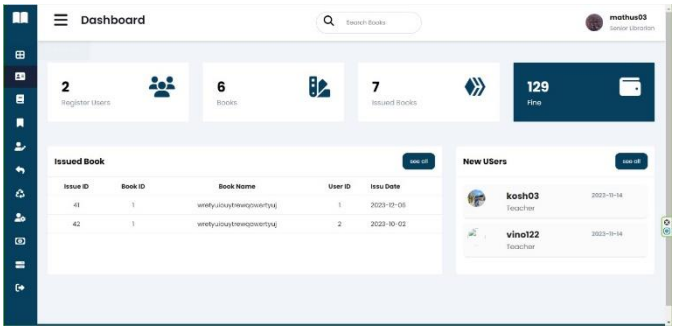
This is the final report of our BOOKINFORCE library management system, which may allow storing the details of all the data related to library. In this project, the functional entities in an organization and their interactions are thoroughly described in the document. The project employs architectural and ER diagrams to sketch the general structure of the software system and to explain the interactions, constraints, and boundaries between components.

It also uses UML and ER diagrams to express the requirements for hardware and software interfaces. The solution to this is an online library management system that takes care of all the work by automating and digitizing the whole process. This software helps the librarian in reducing the stress of maintaining records manually.

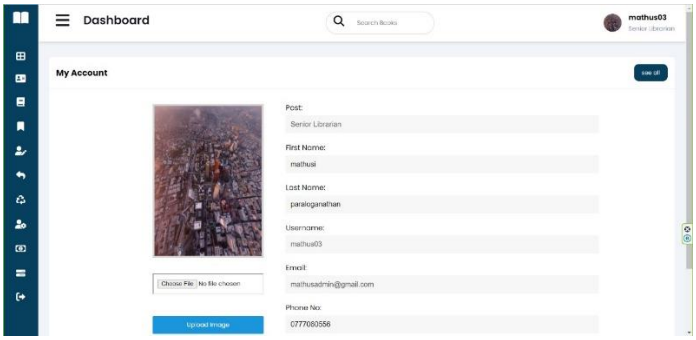
9. Demonstrations



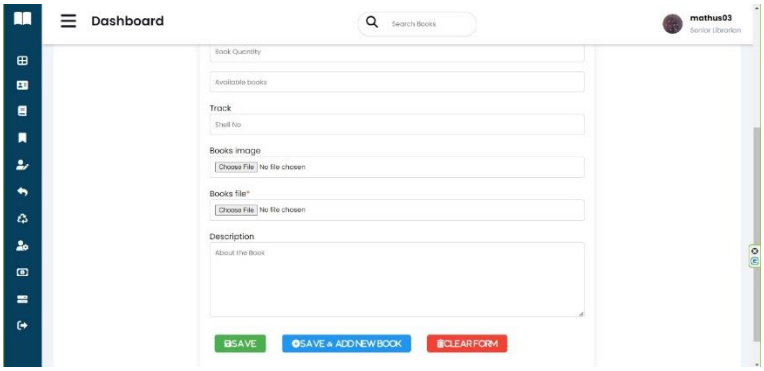
User dashboard



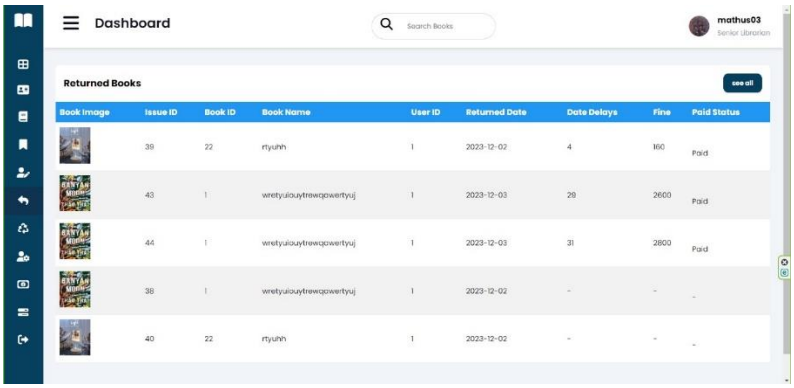
Admin dashboard



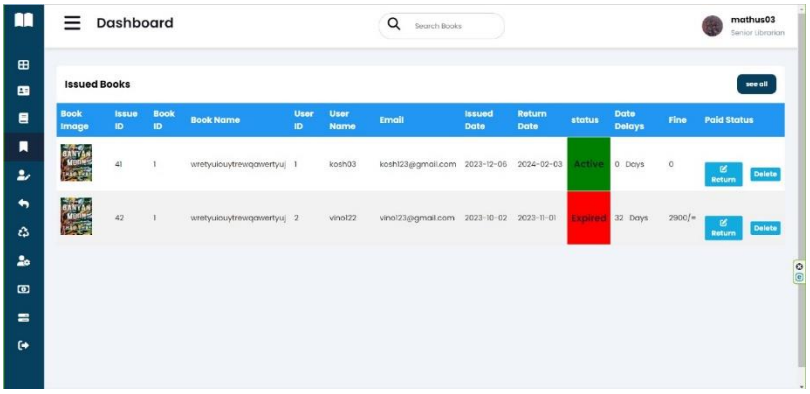
Admin view profile



Admin add book page



Returned book



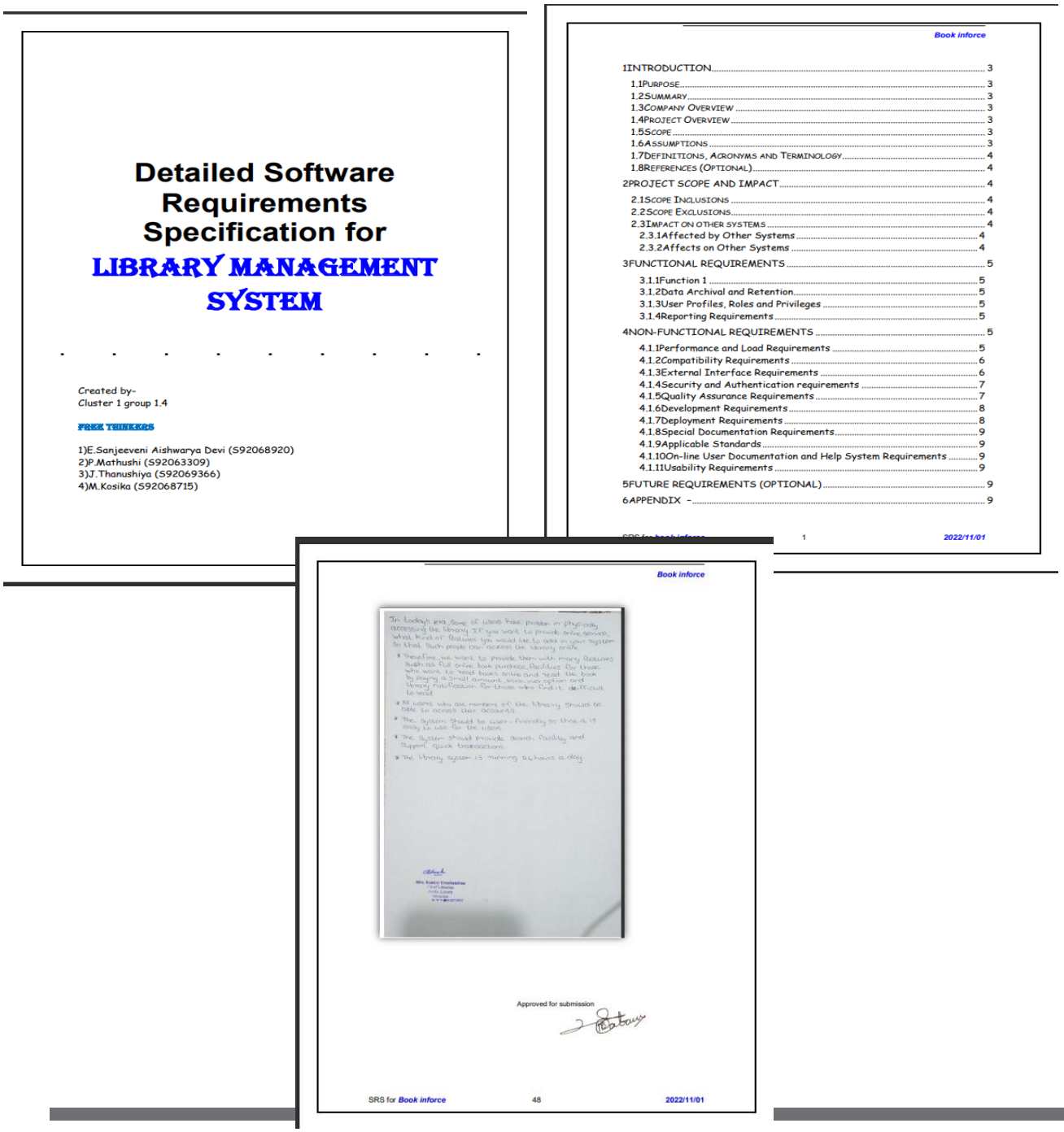
Issued book

10. Appendix

10.1 Updated SRS

SRS Document link

https://drive.google.com/file/d/1rqOpvUBsaPezoaO0S7X1EtgnBfUOoato/view?usp=sharing



Detailed Software Requirements Specification for

LIBRARY MANAGEMENT SYSTEM

Created by-
Cluster 1 group 1.4

FREE THINKERS

1)E.Sanjeeveni Aishwarya Devi (S92068920)
2)P.Mathushi (S92063309)
3)J.Thanushiya (S92069366)
4)M.Kosika (S92068715)

Book inforce

1INTRODUCTION 3
1.1PURPOSE 3
1.2SUMMARY 3
1.3COMPANY OVERVIEW 3
1.4PROJECT OVERVIEW 3
1.5SCOPE 3
1.6ASSUMPTIONS 3
1.7DEFINITIONS, ACRONYMS AND TERMINOLOGY 4
1.8REFERENCES (OPTIONAL) 4
2PROJECT SCOPE AND IMPACT 4
2.1SCOPE INCLUSIONS 4
2.2SCOPE EXCLUSIONS 4
2.3IMPACT ON OTHER SYSTEMS 4
2.3.1Affected by Other Systems 4
2.3.2Affects on Other Systems 4
3FUNCTIONAL REQUIREMENTS 5
3.1.1Function 1 5
3.1.2Data Archival and Retention 5
3.1.3User Profiles, Roles and Privileges 5
3.1.4Reporting Requirements 5
4NON-FUNCTIONAL REQUIREMENTS 5
4.1.1Performance and Load Requirements 5
4.1.2Compatibility Requirements 6
4.1.3External Interface Requirements 6
4.1.4Security and Authentication requirements 7
4.1.5Quality Assurance Requirements 7
4.1.6Development Requirements 8
4.1.7Deployment Requirements 8
4.1.8Special Documentation Requirements 9
4.1.9Applicable Standards 9
4.1.10On-line User Documentation and Help System Requirements 9
4.1.11Usability Requirements 9
5FUTURE REQUIREMENTS (OPTIONAL) 9
6APPENDIX - 9

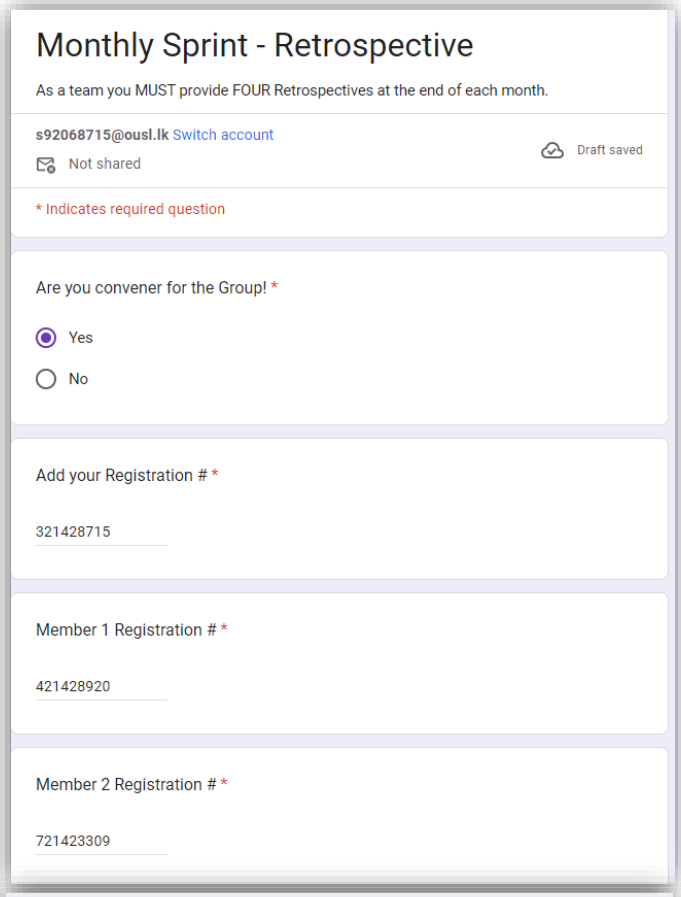
1 2022/11/01

Book inforce

Approved for submission

SRS for Book inforce 48 2022/11/01

10.2 Monthly Retrospective



Monthly Sprint - Retrospective

As a team you MUST provide FOUR Retrospectives at the end of each month.

s92068715@ousl.lk Switch account

Not shared

Draft saved

* Indicates required question

Are you convener for the Group! *

- (•) Yes
- ( ) No

Add your Registration # *

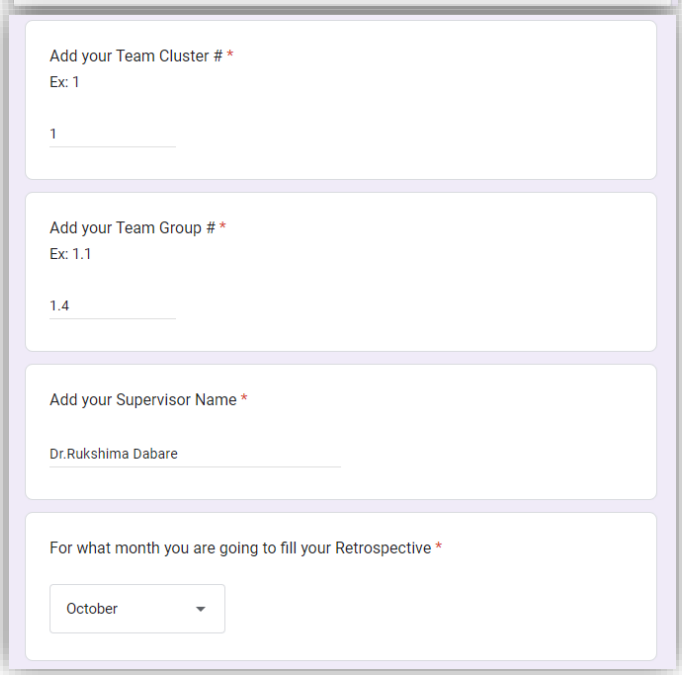
321428715

Member 1 Registration # *

421428920

Member 2 Registration # *

721423309



Add your Team Cluster # *

Ex: 1

1

Add your Team Group # *

Ex: 1.1

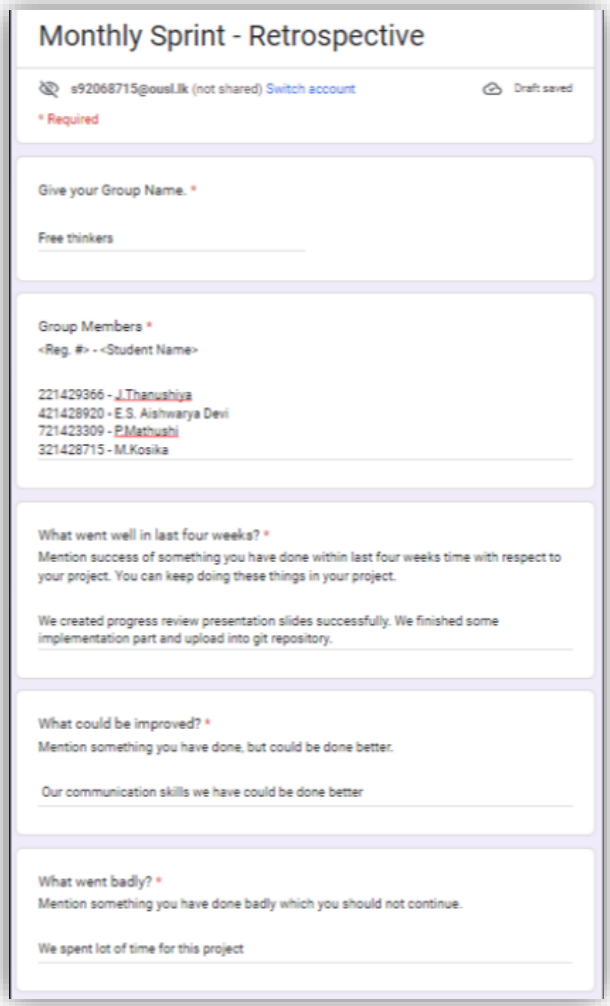
1.4

Add your Supervisor Name *

Dr.Rukshima Dabare

For what month you are going to fill your Retrospective *

October



Monthly Sprint - Retrospective

s92068715@ousl.lk (not shared) Switch account

Draft saved

* Required

Give your Group Name. *

Free thinkers

Group Members *

<Reg. #> - <Student Name>

221429366 - J.Thanushiya
421428920 - E.S. Aishwarya Devi
721423309 - P.Mathushi
321428715 - M.Kosika

What went well in last four weeks? *

Mention success of something you have done within last four weeks time with respect to your project. You can keep doing these things in your project.

We created progress review presentation slides successfully. We finished some implementation part and upload into git repository.

What could be improved? *

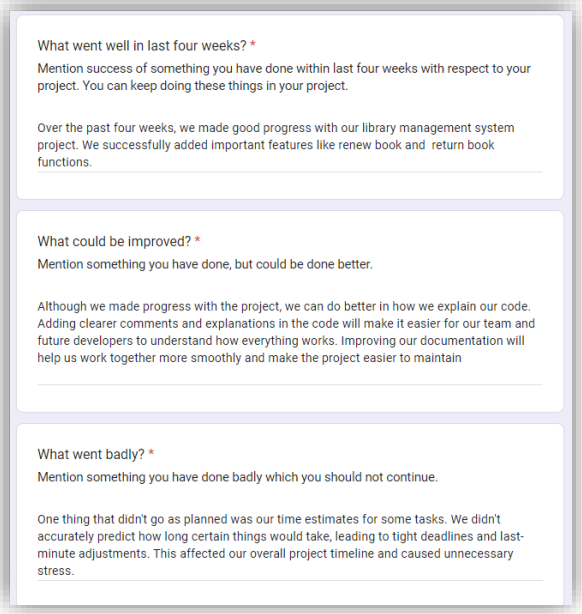
Mention something you have done, but could be done better.

Our communication skills we have could be done better

What went badly? *

Mention something you have done badly which you should not continue.

We spent lot of time for this project



What went well in last four weeks? *

Mention success of something you have done within last four weeks with respect to your project. You can keep doing these things in your project.

Over the past four weeks, we made good progress with our library management system project. We successfully added important features like renew book and return book functions.

What could be improved? *

Mention something you have done, but could be done better.

Although we made progress with the project, we can do better in how we explain our code. Adding clearer comments and explanations in the code will make it easier for our team and future developers to understand how everything works. Improving our documentation will help us work together more smoothly and make the project easier to maintain

What went badly? *

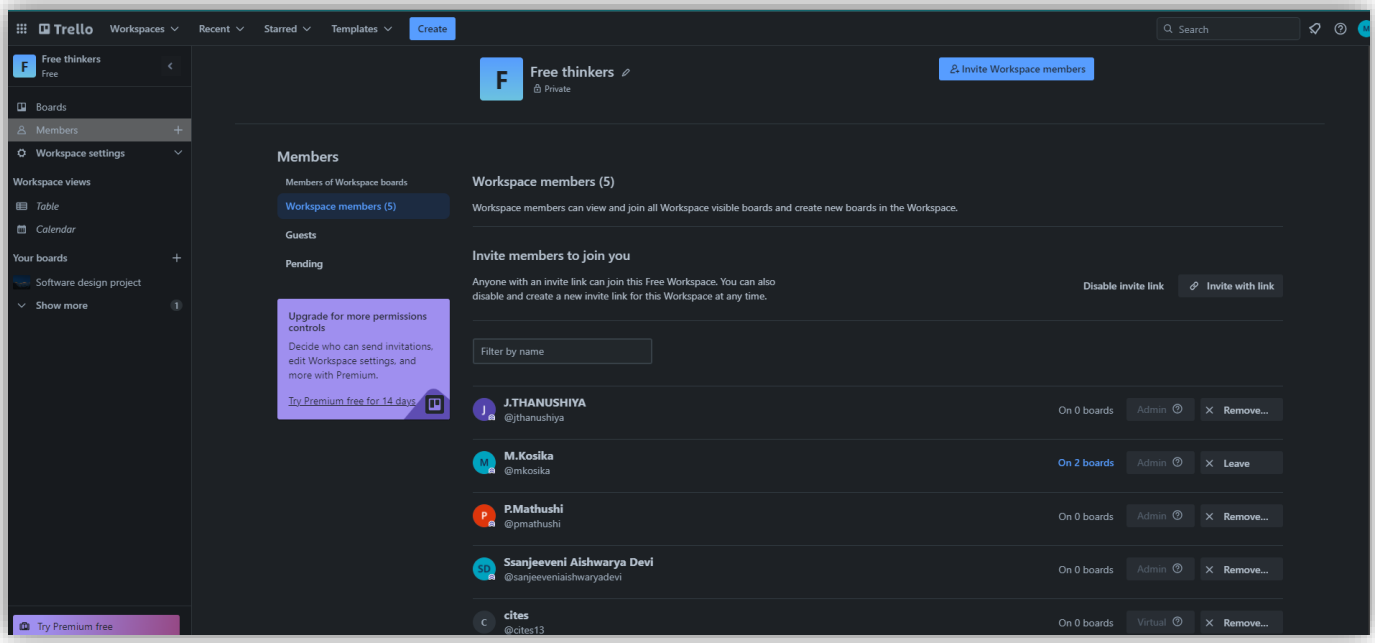
Mention something you have done badly which you should not continue.

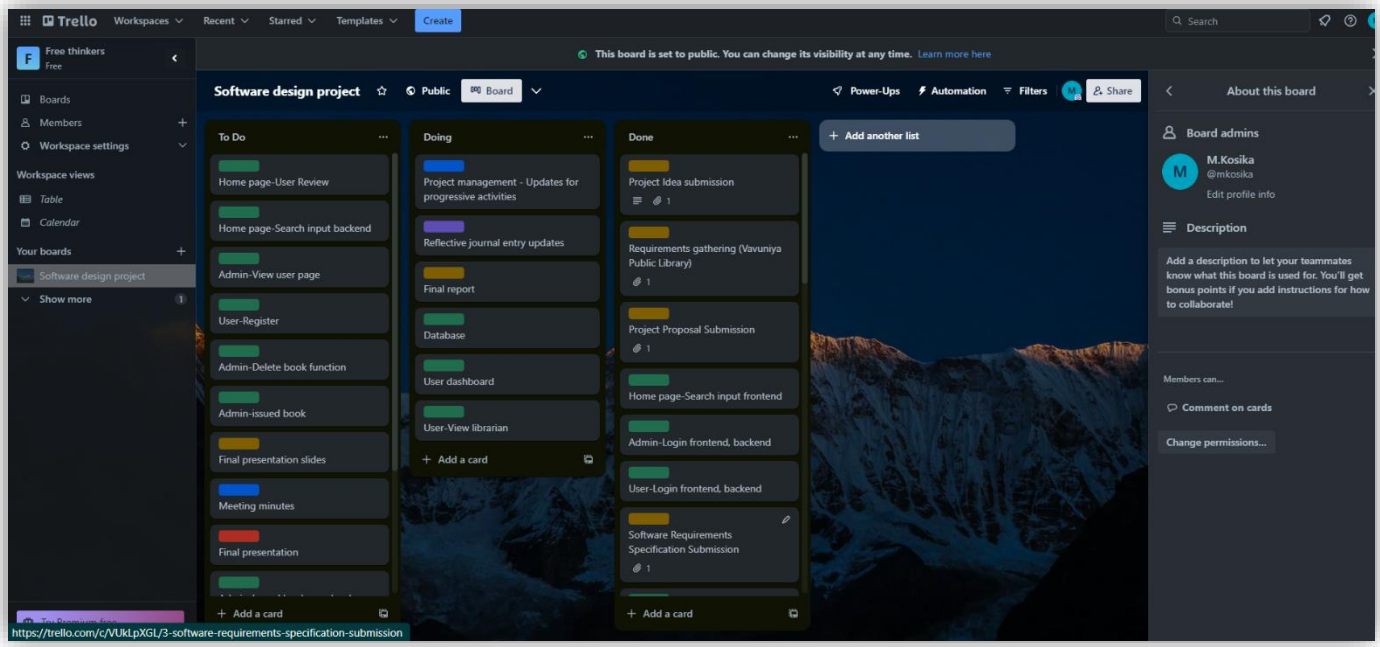
One thing that didn't go as planned was our time estimates for some tasks. We didn't accurately predict how long certain things would take, leading to tight deadlines and last-minute adjustments. This affected our overall project timeline and caused unnecessary stress.

10.3 Project Governance Tool

We are using Trello board tool for manage our project.

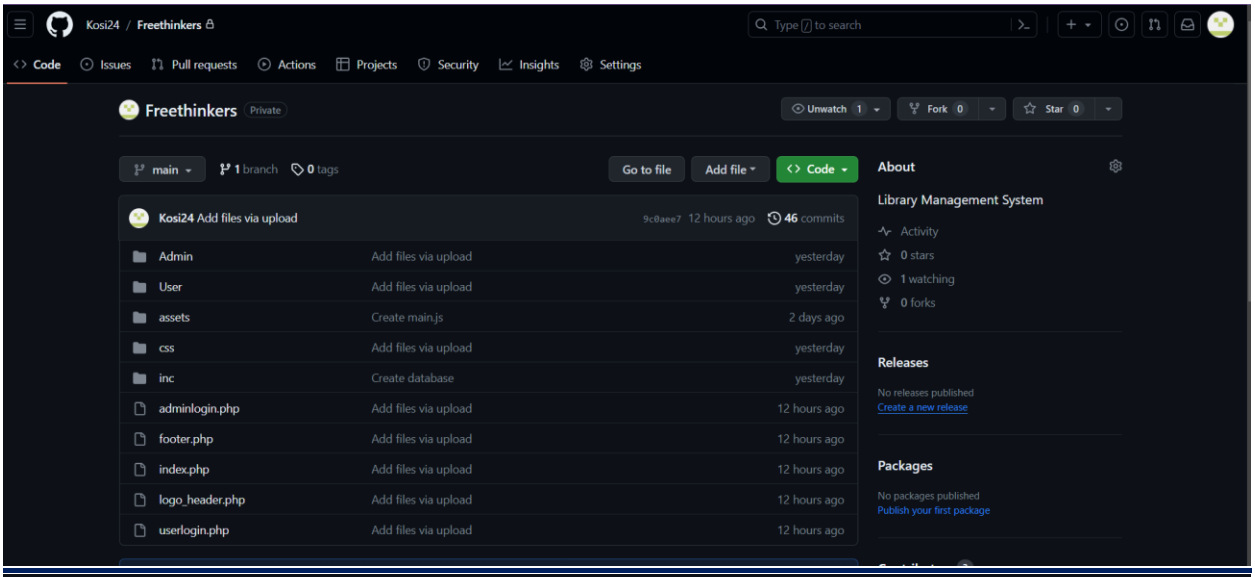
https://trello.com/w/freethinkers16/members

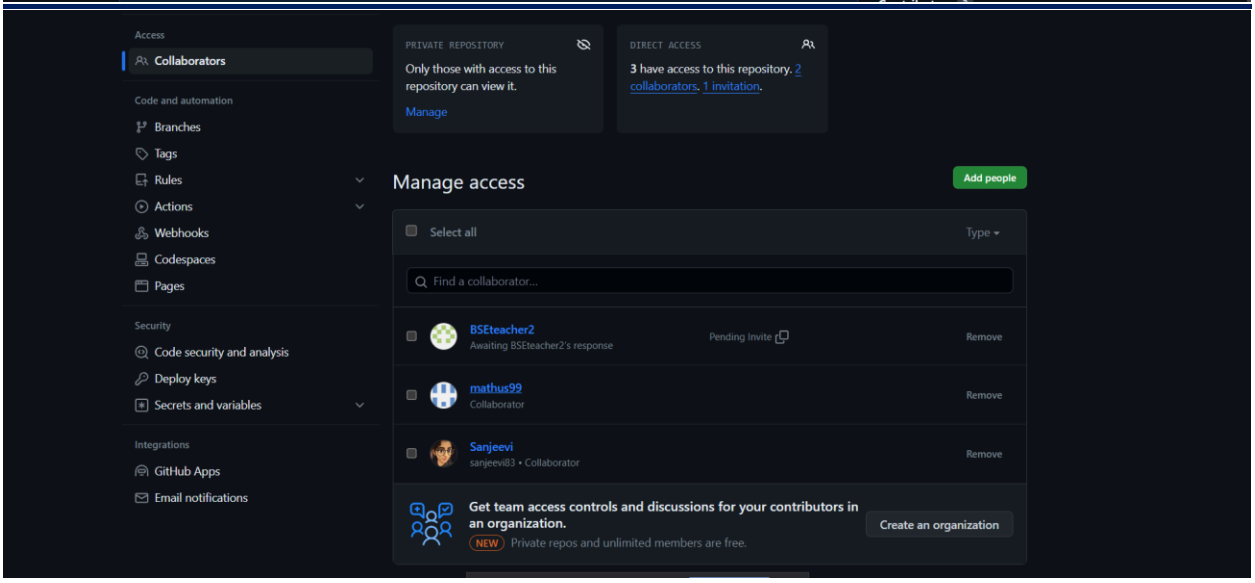




10.4 GIT Account

https://github.com/Kosi24/Freethinkers





10.5 CMMI Meeting Minutes

Meeting minutes

Meeting Date/Time	10th October 2022 1.39 pm to 2.10pm	27th October 2022 7.01pm to7.50pm	30st October 2022 11:21 AM to 11:40 AM	31st October 2022 10:40 PM to 11:36 PM	02nd November 2022 8:30 PM	28th November 2022 8:06 AM to 9.17AM	28th December 2022 10:21 PM to 11:05 PM
Participants	E.S. Aishwarya Devi J. Thanushiya P. Mathushi M.Kosika		S92068920 S92069366 S92063309 S92068715				
Estimated Time	25 minutes	15 minutes	30 Minutes	40 Minutes	45Minutes	30 Minutes	45Minutes
Actual Time	31 minutes 45 seconds	49 minutes	18m 55s	Time 55m 55s	n	1h 7m	44m 7s
Special Notes	Explained about project proposal, Distributed responsibilities to everyone.	Took special notes about SRS Document. Brief explanation about reflecting journal. Knew more about requirements gathering.	Documents to be submitted for SRS document. For example, application diagram, screen layout and process flow.	Briefly explain how to redress the use case, Scree layout and process Flow diagram	Guidance provides by the mentor to Correct the Software Requirement Specification (SRS) document.	Note on presentation and how to convey the presentation, Explained about the project-rubric	Guidance provides by the mentor to draw the activity diagram and ER diagram Briefly explain about test case templets
Call/Location Information	Teams	Teams	Teams	Teams	Teams	Teams	Teams
Supported Documents	Template of project proposal from LMS	Template of SRS documents from LMS	Document of Requirement Gathering from Customer	Software requirement Specifications Document	Software requirement Specification Document	Software Design in Project - Rubric	Sample Test Case Document

Agenda:	Topic 1: Presentation of project idea Topic 2: Distributed responsibilities to everyone Topic 3: Project proposal	Topic 1: Requirements gathering Topic 2: Introduction of SRS Topic 3: Functional and non-functional requirements. Topic 4: Reflecting journal entry	Topic 1: Explaining Requirements Gathering Document Topic 2: Explanation of the next procedure to be carried out	Topic 1: Explaining SRS Document Topic 2: Discussion about workshop .	Topic 1: Explaining SRS Document Topic 2: Explaining the SRS Document correction.	Topic 1: Discussed about the Milestone 5 Topic 2: Explaining the Progress Review Presentation Topic 3: Explaining Project - Rubric of Software Design	Topic 1: Architectural Diagram Topic 2: Explaining the UML Diagram Topic 3: Discussed Progress of the implementation Topic 4: test case Document
Notes/Clarifications:	✓ Clarified about SWOT analysis. ✓ asked explanations about Competitor Analysis.	✓ Clarified about table of non-functional requirements. ✓ Made clear about company overview. ✓ Clear our doubts in reflecting journal	✓ A description of the features identified in the requirements gathering document we provided. ✓ Clarifying about the tool for screen layout. ✓ Made clear how the database is important for authenticating.	✓ Clarified about Scop inclusion and exclusion. ✓ Identified the mistakes in Use case Diagram. ✓ Guidance on process flow which was not updated in the project.	✓ Clarified how correct the mistakes in the SRS documents. ✓ Clarified about submitting details.	✓ Clarified how many slides will be included ✓ How to take up the presentation	✓ Clarify ER Diagram. ✓ Clarify Class Diagram. ✓ Clarify Architectural Diagram.

Meeting Date/Time	15th of January 2023 4pm	28th of January2023 7.15pm	21st of November 2023 5.35pm
Participants	E.S. Aishwarya Devi P. Mathushi M.Kosika S92068920 S92063309 S92068715		
Estimated Time	45 minutes	An hour	1 hour
Actual Time	An hour	1 hour 41 minutes	55 minutes
Special Notes	Guidance provides by Mentor to Correct the Progress Review Presentation	. Guidance provide by the mentor to Correct the Software Requirement Specification (SRS) document	.
Call/Location Information	Teams	Teams	Zoom
Supported Documents	Progress Review Presentation	Software Requirement Specification (SRS) document.	Final report

Agenda:	Topic 1: Taking mock Presentation. • Project Introduction. • System analysis. • System Design. • Implementation. • Presentation conclusion. Topic 2: Explaining the Presentation correction. • What are the things that need to change in project idea. • What are the things adding to project scoop. • Provide ideas about corrections.	Topic 1: Check the implementation. • Check the process of implementation. • Discussed about the finished implementation. Topic 2: Explaining the SRS Document correction. • How to prepare the correct document. • What are things removed from the SRS document. • What are things included to the SRS document. • Provide ideas about corrections	Topic 1 – Construct mistakes in backend. Topic 2 – Display test case document. Topic 3 - Discussion about main use case.
Notes/Clarifications:	✓Explained the best way to correct the mistakes. ✓Clarified about how to start and end a good Presentation. ✓✓Clarified about CMMI meeting minute template.	✓Clarified how correct the mistakes in the SRS documents. ✓Clarified about submitting details	✓ Clarify testcase document doubts ✓Construct mistakes in backend ✓Clarification in main use case

Meeting minutes documents

https://drive.google.com/drive/folders/1H2Vpk7j0HUpBiuNaaWUj3p3RBvh1aNWb?usp=drive_link

10.6 Test Case

10.6.1 UI test cases

Quality Assurance Test Cases (QATC)

Author:	Free Thinkers
Date Created:	17/11/2023
Last Updated:	22/11/2023
Version:	1
Environment:	Windows10
Release/Build:	Sprint 2
Functional Group:	

Test Cases Summary	Count
Pass	32
Fail	0
On Hold	0
Not Executed	0
Not Applicable	1
Total Test Cases	**33**

Revision & Execution History

Test Case ID	Feature Description	Prerequisites	Test Description (test steps)	Input Data	Expected Result	Test Results	Test Case Type	Severity
UI								
Home Page								
HM_UI001	Verify the Home Page Layout	Visit the website	Click on the short cut icon.Verify the layout of the home page including header, navigation,search bar, and footer.	N\A	User should be able to display home page with header footer search bar and footer correctly	Pass	UI	High
HM_UI002	Verify the navigation menus is navigated to login page or the desired location	Visit the website	Click on the navigation menu.	N\A	user should be able to navigate the login pages correctly	Pass	UI	High
Search form								
SF_UI001	Verify whether the user can enter the required text in the search box.	Visit the website	Click on the search field . Enter the text.	N\A	User should able to enter the required text in the search box	Pass		
SF_UI002	Verify whether the search box is giving any autosuggestions for text to be searched	Visit the website	Click on the search field . Enter the text.	N\A	User should able to display autosuggestion for text to be searched	Not Applicable		
SF_UI003	Verify if a user can enter any characters required by the user in the search box	Visit the website	Click on the search field . Enter the text.	N\A	User should able to enter any characters required by the user in the search box	Pass		
SF_UI004	Verify whether the search box takes a maximum length of text for which it is designed	Visit the website	Click on the search field . Enter the text.	N\A	User shoul able to enter maximum length of text	Pass		
SF_UI005	On hovering over the button, verify the button's color is changed.	Visit the website	Click on the search field . Cursor on the search button	N\A	User should able to identify button's color is changed when hovering over the button .	Pass		
SF_UI006	Verify the user can click the Search button	Visit the website	Click on the search field . Click on search button	N\A	User should able to Click the search button	Pass		
Login form								
Lg_UI001	Verify that the login screen contains elements such as email, Password, login button	Visit the website	Click on the navigation menu.	N\A	User should be able to display the login form with email, password and login button fields to add.	Pass	UI	High
Lg_UI002	Verify that all the fields such as email, Password has a valid placeholder	Visit the website	Click on the navigation menu.	N\A	User should be able to display Valid Placeholder	Pass	UI	High
Lg_UI003	Verify the 'Login' functionality of the login form	Visit the website	Click on the navigation menu. Enter the login details. Click on Login button	N\A	User should be able to navigate to the Dashboard	Pass	UI	High
Lg_UI004	Verify that the User is not able to log in with a blank email or Password	Visit the website	Click on the navigation menu. Click on Login button	N\A	User Should be able to notify as please fieldout this field	Pass		
Lg_UI005	Verify that the application's user interface (UI) is responsive.	Visit the website	Click on the navigation menu.	N\A	User should be able to adapt to different screen resolutions and devices.	Pass		
Add Book form								

AB_UI001	Verify to navigate the lay out of the Add book form	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar	N\A	User should be able to see the Addbook form with input fields	Pass	UI	High
AB_UI002	Verify all input fields are displayed on the form	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar Observe the add book page	N\A	User should be able to display form with fields for ISBN, Category, Book Title, Author, Quantity, Available, Track, Description, Image, and File	Pass	UI	High
AB_UI003	Verify attempt to upload an image for the book	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar Observe the add book page click the choosen file button	N\A	User should be able to upload the image for book	Pass	UI	High
AB_UI004	Verify attempt to upload a file for the book	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar Observe the add book page click the choosen file button	N\A	User should be able to upload the file for book	Pass	UI	High
AB_UI005	Verify the 'Save Button' of the add book form	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar Observe the add book page click the Save button	N\A	User should be able to add Book details in to the system and the page redirect to Display book page.	Pass	UI	High
AB_UI006	Verify the 'Clear Button' of the add book form	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar Observe the add book page click the clear button	N\A	User should be able to clear Book details in input fields.	Pass	UI	High
Request book page								
RQB_UI001	Verify the display lay out of the request book table	Visit the website	Admin Login to the system. Observe the dashboard Click the request book in sidebar Observe the reuest book page	N\A	Admin should be able to see request book layout with text fields	Pass	UI	High
RQB_UI002	Verify all details field are displayed on the table	Visit the website	Admin Login to the system. Observe the dashboard Click the request book in sidebar Observe the reuest book page	N\A	Admin should be see table with contain fields for Book ID, Book Name, Notes	Pass	UI	High
RQB_UI003	Verify that the availability of the books can reserve	Visit the website	Admin Login to the system. Observe the dashboard Click the request book in sidebar Observe the reuest book page	N\A	Admin should be able to see reserve button	Pass	UI	High
RQB_UI004	Verify that the not available book cannot reserve	Visit the website	Admin Login to the system. Observe the dashboard Click the request book in sidebar Observe the reuest book page	N\A	Admin should be able to see only cancel button in requested book page	Pass	UI	High

RQB_UI005	Verify the Reserve button to reserved the book	Visit the website	Admin Login to the system. Observe the dashboard Click the request book in sidebar Observe the reuest book page Click Reserve button		Admin should be able to see the requested book details send and redirect to issue book page	Pass		
RQB_UI006	Verify the cancel button to cancel the book request	Visit the website	Admin Login to the system. Observe the dashboard Click the request book in sidebar Observe the reuest book page Click the cancel button	N\A	Admin should be able to see the cancel book request data remove from requested book table	Pass	UI	High
Issue book page								
IB_UI001	Verify the display lay out of the request book table	Visit the website	Admin Login to the system. Observe the dashboard Click the issue book in sidebar Observe the issue book page	N\A	The "Issue Book" form with a table should be displayed	Pass	UI	High
IB_UI002	Verify the presence of table headers	Visit the website	Admin Login to the system. Observe the dashboard Click the issue book in sidebar Observe the issue book page	N\A	able headers should include Reserve ID, Book ID, Book Name, User ID, Username, Request Note, Issue Date, Return Date, Issue Note, and Action	Pass	UI	High
IB_UI003	Verify if the "Issue Date" input field is present	Visit the website	Admin Login to the system. Observe the dashboard Click the issue book in sidebar Observe the issue book page	N\A	Issue Date field should be present in each row	Pass	UI	High
issued Book page								
ISB_UI001	Verify the display lay out of the to issued book table	Visit the website	Admin Login to the system. Observe the dashboard Click the issued book in sidebar Observe theissued book page	N\A	The "Return Book" form should be displayed with a table of issued books	Pass	UI	High
ISB_UI002	Verify the return date active or expired	Visit the website	Admin Login to the system. Observe the dashboard Click the issued book in sidebar Observe the issued book page	N\A	admin should be able to see the Status column should have green background for active books and red for expired books	Pass	UI	High
ISB_UI003	Verify the 'Return' button of the issued book page	Visit the website	Admin Login to the system. Observe the dashboard Click the issued book in sidebar Observe the issued book page click the issued button	N\A	admin should be able to redirect returning book page	Pass	UI	High
profile page								
P_UI001	Verify the Navigate to the "Profile" section	Visit the website	User Login to the system. Observe the dashboard Click theprofile in sidebar Observe the profile page	N\A	The user's profile details and an option to upload a photo should be displayed	Pass	UI	High
P_UI002	Verify Upload a profile photo	Visit the website	User Login to the system. Observe the dashboard Click theprofile in sidebar Observe the profile page Click Choosen file button Click upload button	N\A	user should be able to uploaded successfully	Pass	UI	High

10.6.2 Functional test cases

Quality Assurance Test Cases (QATC)

Author:	Free Thinkers
Date Created:	17/11/2023
Last Updated:	22/11/2023
Version:	1
Environment:	Windows 10
Release/Build:	Sprint 2
Functional Group:	

Test Cases Summary	Count
Pass	21
Fail	0
On Hold	0
Not Executed	1
Not Applicable	1
Total Test Cases	**23**

Revision & Execution History

Test Case ID	Feature Description	Prerequisites	Test Description (test steps)	Input Data	Expected Result	Test Results	Test Case Type	Severity
Functional								
Login form								
Lg_F001	Verify that Enter/Tab key works as a substitute for the Login button	Visit the website	Click on the navigation menu. Enter the login details.	N\A	User should be able to navigate to the Dashboard	Pass	Functional	High
Lg_F002	Verify that the User is able to Login with Valid Credentials	Visit the website	Click on the navigation menu. Enter the login details. Click on Login button	N\A	User should be able to navigate to the Dashboard	Pass		
Lg_F003	Verify that the User is not able to Login with an invalid email and invalid Password	Visit the website	Click on the navigation menu. Enter the login details. Click on Login button	N\A	User should be able to see an error message indicating Invalid User Details.	Pass		
Lg_F004	Verify that the User is not able to Login with a Valid email and invalid Password	Visit the website	Click on the navigation menu. Enter the login details. Click on Login button	N\A	User should be able to see an error message indicating Invalid User Details.	Pass		
Lg_F005	Verify that the User is not able to log in with an invalid email and Valid Password	Visit the website	Click on the navigation menu. Enter the login details. Click on Login button	N\A	User should be able to see an error message indicating Invalid User Details..	Pass		
Lg_F006	Verify that the User is not able to log in with a blank email or Password	Visit the website	Click on the navigation menu. Enter the login details. Click on Login button	N\A	User should be able to see an error message indicating Invalid User Details.	Pass		
Lg_F007	Verify the error message popmenu at wrong login functionality of the system	Visit the website	Click on the short cut icon. Enter the login details.	N\A	User should be able to notify entered user name and password is wrong.	Pass	Functional	High
Lg_F008	Verify that the reset button clears the data from all the text boxes in the login form	Visit the website	Click on the navigation menu. Enter the login details. Click on cancel button	N\A	User should be able to reset the input fields	Not Applicable		
Lg_F009	Verify that User is redirected to appropriate page after successful login	Visit the website	Click on the chrom tab Enter URL of Appropriate page after login at chrome tab	N\A	User should be able to redirect to Home Page	Pass		
Lg_F010	Verify that the logout link is redirected to login/home page	Visit the website	Click on the sidebar click the Logout Button	N\A	User should be able to redirect to Home Page	Pass		
search form								
SF_F001	Verify the 'Search button' functionality in the prison Search form	Visit the website	Click on the Search button	N\A	User should be navigated to the results form.	Pass	Functional	High
SF_F002	Verify the Search for a product or term that doesn't exist in the database	Visit the website	Enter text to Search Click the Search button	N\A	User should able to display it returns no results.	Pass		
Add Book form								
AB_F001	Verify the 'Save button ' of Add book form is added the book details to database	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar Observe the add book	N\A	User should be able to see the book details in vie book page	Pass	Functional	High

AB_F002	Verify that the Librarian is able to add book with missing required fields	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar Observe the add book page click the Save button	N\A	User should be able to display the notify to input missing field	Pass	Functional	High
AB_F003	Verify the clear button of the add book form	Visit the website	Admin Login to the system. Observe the dashboard Click the Add book in sidebar Observe the add book page click the Clear button	N\A	User should be able to see the form should be cleared	Pass	Functional	Medium
Request book page								
RQB_F001	Verify the book requested is successfully requested	Visit the website	Admin Login to the system. Observe the dashboard Click the Request book in sidebar Observe the request book page	N\A	Admin should be able to see the new request book details in requested page	Pass	Functional	High
RQB_F002	Verify the Request Cancellation	Visit the website	Admin Login to the system. Observe the dashboard Click the Request book in sidebar Observe the request book page Click Cancel button	N\A	User should be able to see the paticular book requested row will be deleted.	Pass	Functional	High
RQB_F003	verify the Reservation	Visit the website	Admin Login to the system. Observe the dashboard Click the Request book in sidebar Observe the request book page Click Reserve button	N\A	User should be able to redirect to issue book table and reserved book sent to Database	Pass	Functional	High
issue book page								
IB_F001	Verify the Confirm Issuing Book	Visit the website	Admin Login to the system. Observe the dashboard Click the issue book in sidebar Observe the issue book page Click confirm button	N\A	admin should be able to issued book, and the record should move to the issued_book table	Pass	Functional	Medium
IB_F002	Verify the Cancel Issuing Book	Visit the website	Admin Login to the system. Observe the dashboard Click the issue book in sidebar Observe the issue book page Click Cancel button	N\A	admin should be able to canceled reservation , and the record should be removed from the reserved_book table	Pass	Functional	Medium
IB_F003	Verify the Enter invalid date formats for "Issue Date" and "Return Date"	Visit the website	Admin Login to the system. Observe the dashboard Click the issue book in sidebar Observe the issue book page Enter a date in date field	N\A	Error message should be displayed	Not Executed	Functional	Medium
Issued Book page								
ISB_F001	Verify the correct number of days late is displayed	Visit the website	Admin Login to the system. Observe the dashboard Click the issued book in sidebar Observe theissued book page	N\A	Days late should be accurate based on the return date	Pass	Functional	Medium

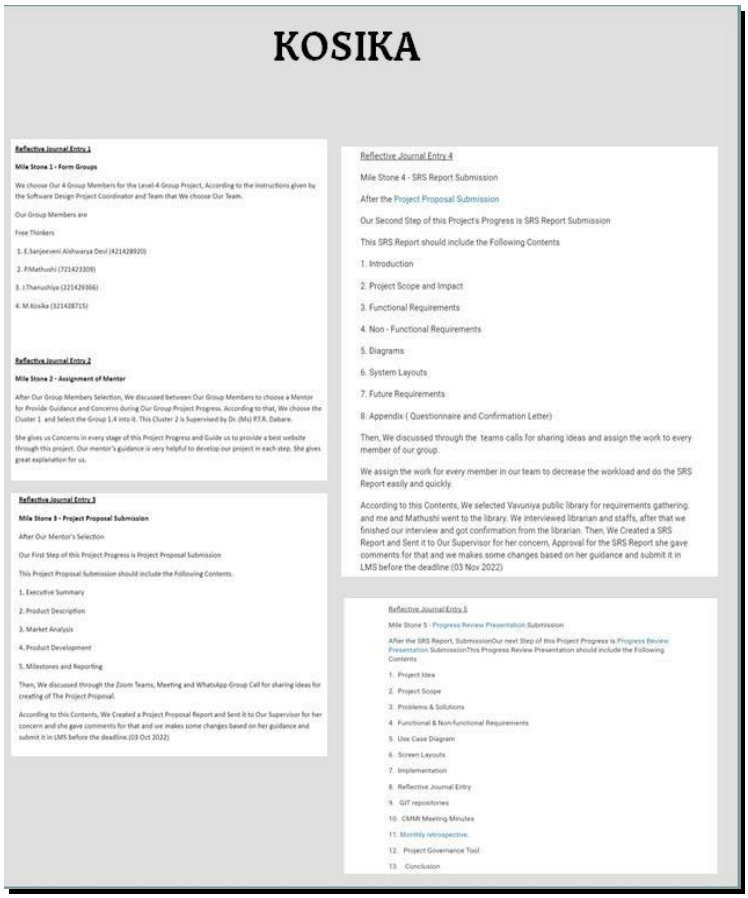
ISB_F002	Verify the correct fine amount is displayed	Visit the website	Admin Login to the system. Observe the dashboard Click the issued book in sidebar Observe theissued book page		Fine amount should be accurate based on the number of days late	Pass		

10.7 Reflective journal

Kosika-https://drive.google.com/drive/folders/1Vu4Wk-_y09X8XBFKxyESwRjphWiH8EyW?usp=drive_link

Sanjeeveni-https://drive.google.com/drive/folders/12zH05-ypwpGBg1ekIcaiUnXWUExG7sx3?usp=sharing

Mathushi-https://drive.google.com/drive/folders/1RUhJMa5rHZWA0BMowNlcr3nKJBnTEkxq?usp=sharing



SANJEEVENI AISHWARYA

1st week

This was the first week for us for the project given EEY4189 course. The first task given to us was forming a group. After that, we were responsible for selecting a mentor for our group.

A group should have 4 members. Although there were minor problems in team formation, we finally formed a team of 4 through discussion.

Subsequently, while choosing a mentor for our group, various good comments were presented about each mentor. While discussing, everyone was seen as the best in each way.

We selected respected Dr. Rukshima as our guide. Later Dr. Rukshima was assigned to cluster 1. As there were already 3 groups joining it, we registered our group as the 4th group.

Although there were different opinions among the group members about the formation of the group and the selection of the mentor, during the group discussion, various new ideas and short-term decisions were taken together.

There is no doubt that every discussion will yield new and better ideas.

2nd week

In the second week, we had to attach a project proposal.

This included the software project we were going to do. In this, our product description, that is, what problem we are going to solve with our product. There was a document about unique features, swot analysis and market analysis.

Although the terms like product features and software are known, knowledge of these terms is generally required when developing software. It was difficult to answer some questions. There was a viva in between and not having enough time was also difficult.

Our group mentor guided us to understand the project proposal clearly and how to respond appropriately. Not only that, but the cooperation of the group members was also good, so it was easy to complete our project together. Also, we enriched our knowledge to join the project as a group with the help of google and YouTube.

How to project as a group through this. I learned how to finish on time and how to develop self-knowledge. I also learned how to prepare for creating software and what techniques to handle it.

3rd week

In the third week, we started working on the SRS document.

The first task we had to do was to select the client for the system we had decided to do and then gather requirements from them, for which both our group members accepted the responsibility.

In addition to requirement gathering, for this project, we had to provide a prototype of the functions and non-functions included in our system, the screen layout of our system, and the system workflow diagram.

Also, the software layout Figma had a common power cut which made it difficult to continue working. Knowledge of these terms is usually required to develop software. Some questions were difficult to answer. There was a viva in between, lack of time and all this made it difficult to trace the SRS document in a way.

However, our group mentor guided us to clearly understand the srs document thoroughly and respond appropriately. Apart from that, the cooperation of the team members was good and it was easy to do our project together. Also, we enriched our knowledge to team up with the project with the help of Google and YouTube.

By this, I have no doubt that even the unknown effort can be completed well and satisfactorily

MATHUSI

Milestone 1

I used the course information content and course synopsis for get to know about the course. We joined four friend in a group and one of the member in group filled the google form for assign project.

Milestone 2

The opportunity was given for select our mentor .We discussed and selected the mentor as Dr. P.T.R. Dabare madam for cluster 1.4 via lms .

Milestone 3

We joined via teams and discussed to write the project proposal. The leader divided the work. I got know new term word.

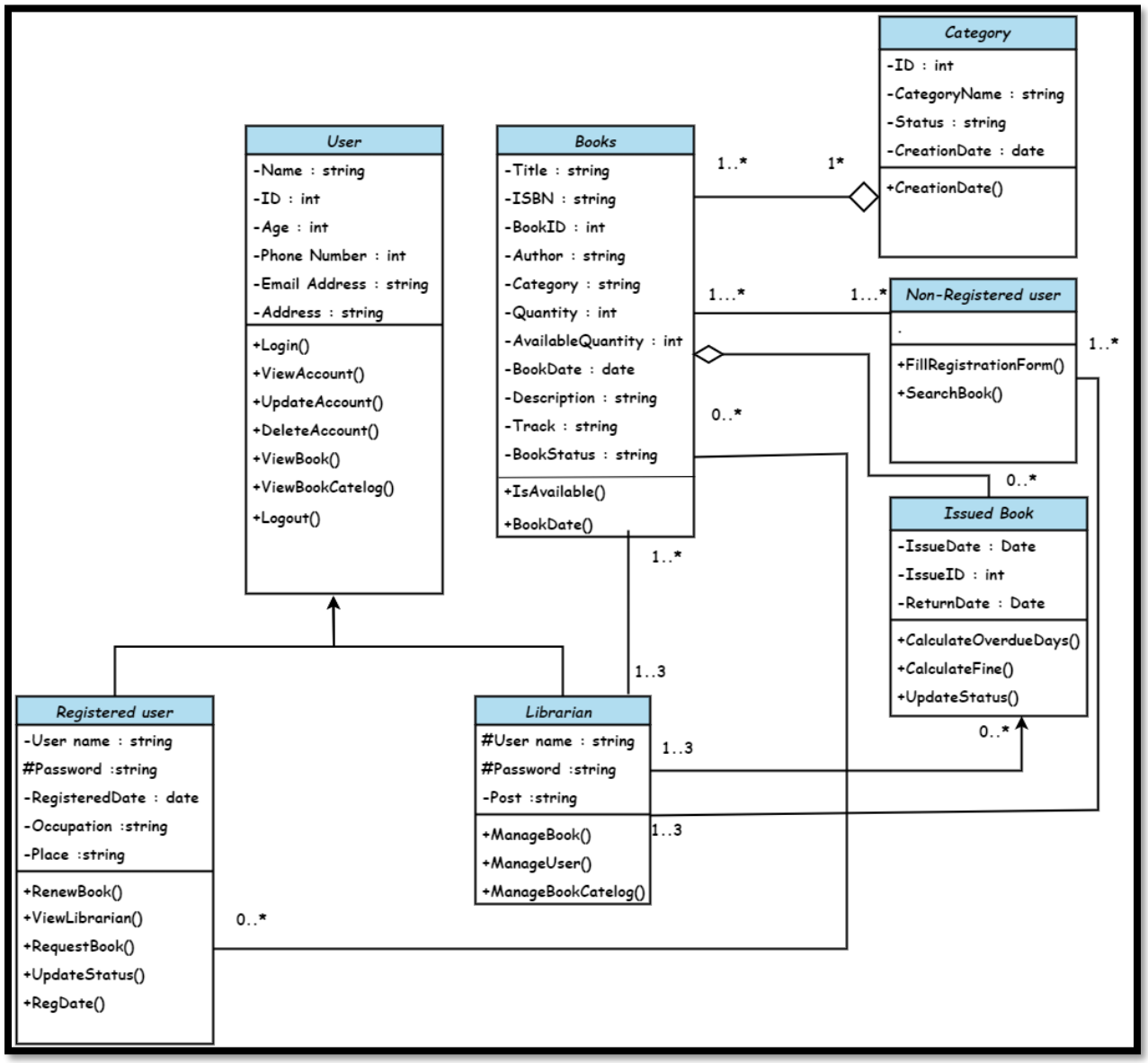
Milestone 4

Me and Kosika went the library to requirements gathering for Software Requirement Specification document . We meet the librarian and staff and got some details . the one of staff granted the permission to view their software. We got librarian signature on our question and answer paper.

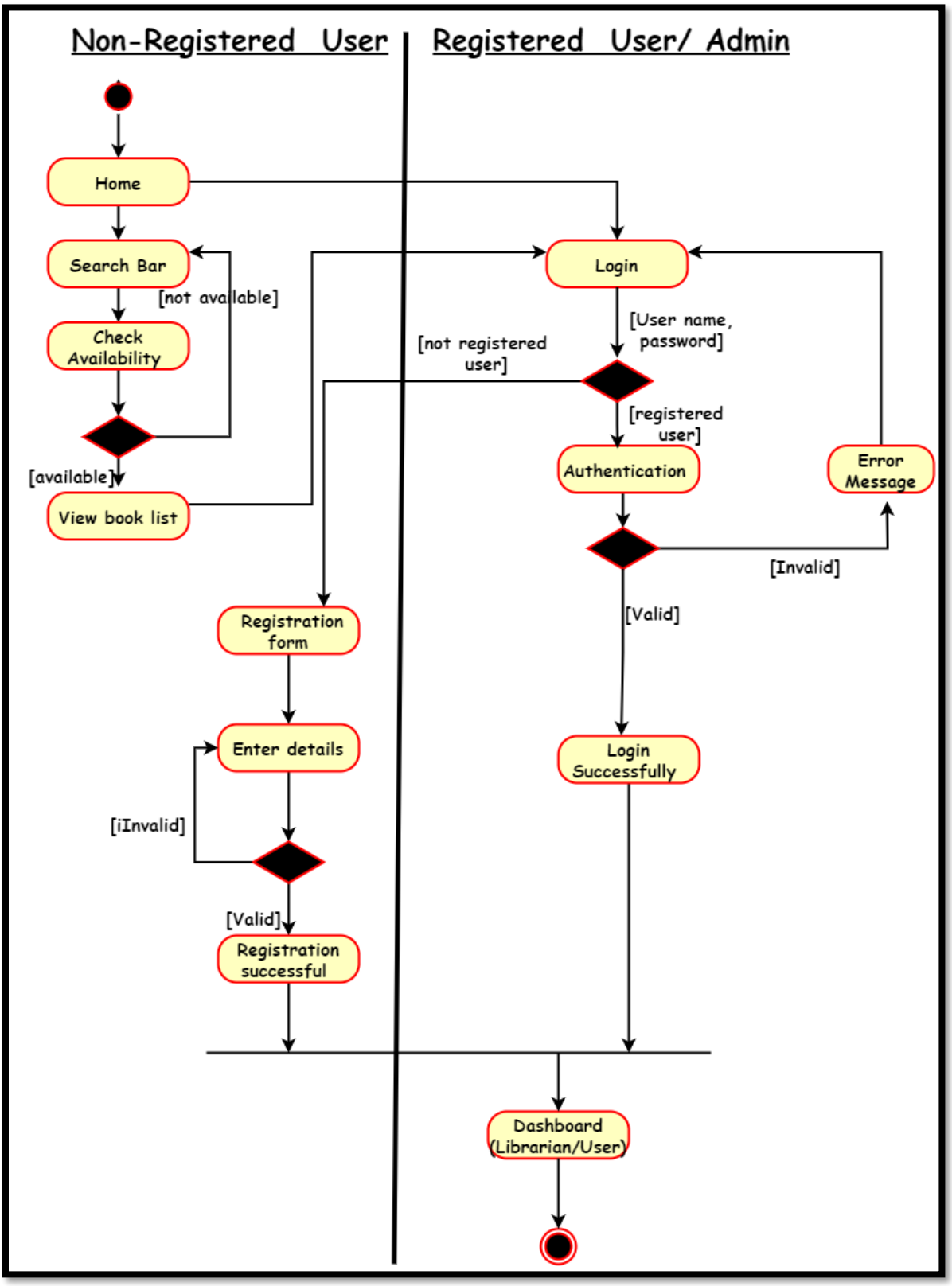
Milestone 5

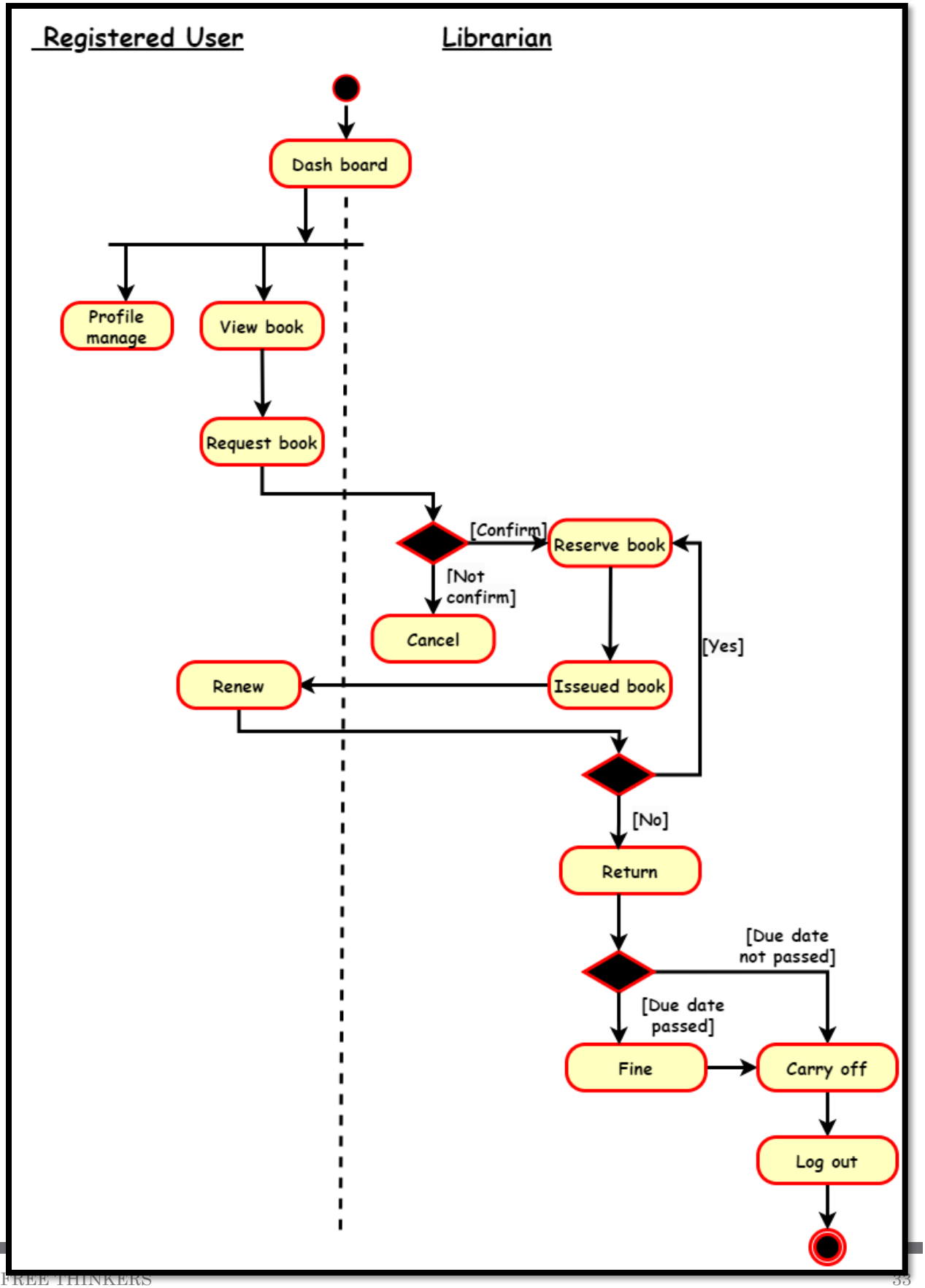
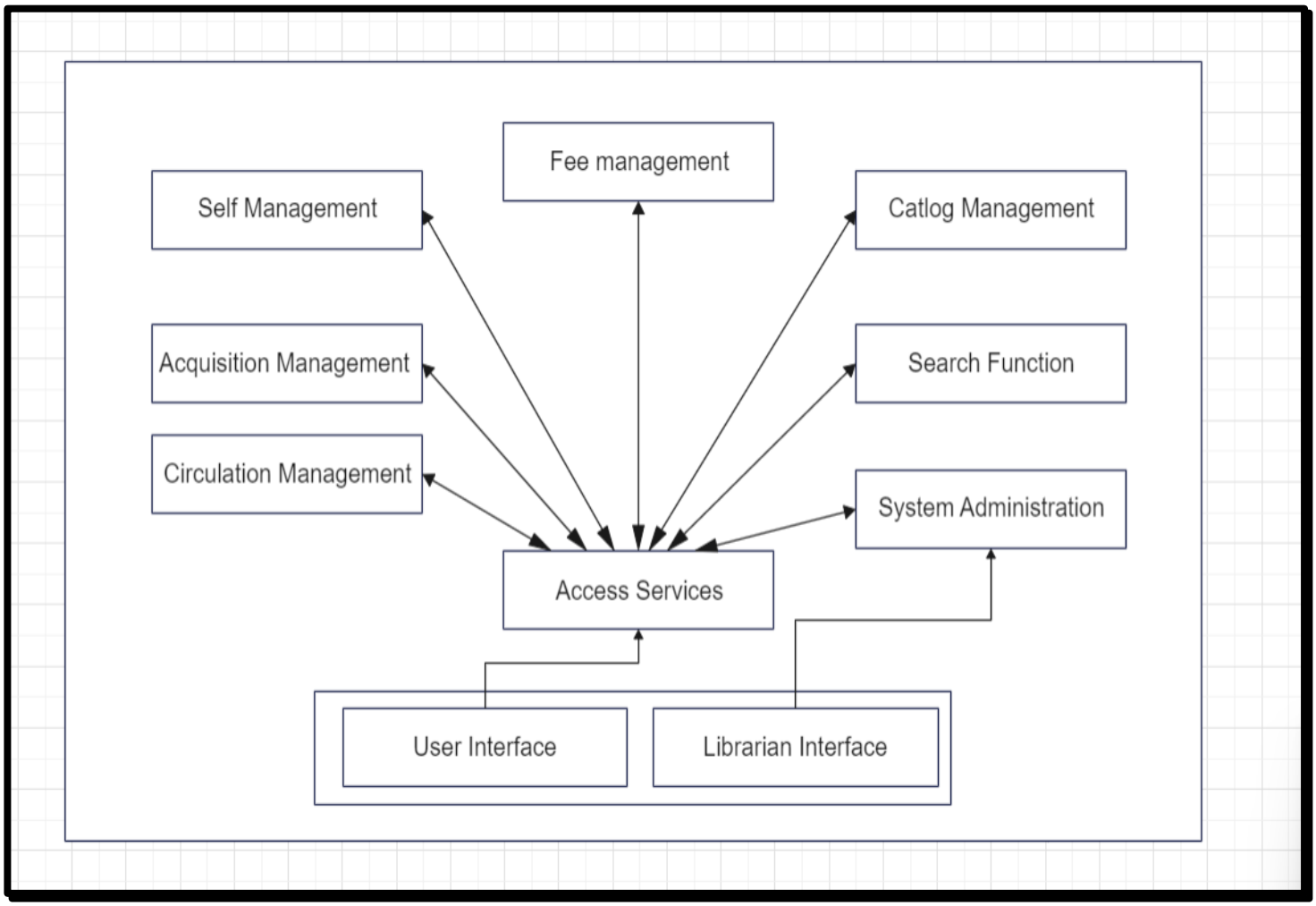
We prepared for progress review presentation. Leader provide the work for me to do Project idea ,scope content.

Class Diagram



Activity Diagram




Registered User
Librarian
Dash board
Profile manage
View book
Request book
[Confirm]
Reserve book
[Not confirm]
Cancel
[Yes]
Renew
Isseued book
[No]
Return
[Due date not passed]
[Due date passed]
Fine
Carry off
Log out

Overall Architecture-block Diagram