

Bookify	
Supporting Requirements Specification	Date: 06.04.2020

Bookify

System-Wide Requirements Specification

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1. Introduction

System-Wide Requirements documents is something which explains the model and specifications of the software program. With System-Wide Requirements documents, the inconsistencies of the program can be determined in the beginning of the software and it can overcome to potential conflicts in the later parts of the software development process. By preparing a good System-Wide Requirements document it can drastically reduce the cost of the process by preventing future redesigns.

2. System-Wide Functional Requirements

2.1 Authorization

We will use JSON Tokenizer to Authenticate users. By enabling middlewares in our endpoints in the backend service, user permissions to access certain information and operations will be controlled.

2.2 Auditing

All changes to the book database will be stored as logs. For example: book purchases and adding books to the database. All transactions can be verified by looking at these logs. A user can check his personal information and his/her purchasing history and current products he ordered, from website's account page.

2.3 Security

All personal details will be secured such as user name, passwords and credit card information.

3. System Qualities

3.1 Usability

The application is user-friendly. User can use the system easily and get used to the system.

- **Simplicity:** The system is very simple to use. User is able to learn how to use the system in a very short time.

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- **Understandability:** Our system gives information about the process with system prompt and messages.
- **Task efficiency:** User can complete the task with a couple of clicks.
- **Ease of remembering:** The user remembers the re-use in a short time even though he has not used the system for a long time.

3.2 Reliability

Java is generally a reliable platform because of strongly typed language design and advanced error handling system. By using Testing systems, the reliability of the system will improve drastically. Reliability is a progress that guarantees system working under bad conditions. Basic considerations:

- **Accuracy** specifies requirements for system precisions.
- **Recoverability:** By using Third Party Applications like nodemon it can be automatically relaunched at a potential down of the server. And by catching the potential errors in the system it can be prevented to down the server.
- **Frequency and severity of failures:** A back-up system will be built.

3.3 Performance

By optimizing the database queries the total amount of traffic to the database management system will be optimized. By using a programming language like Java, it will be more effective and faster in the processor dense operations.

Using a dynamic single page web application makes a huge difference and made it possible to use client's resources. By calling the server at only CRUD operations instead of every single change on the browser, the total amount of traffic between the client and the server lowers drastically.

3.4 Supportability

By using a system which is built upon the Java Programming language it comes with a lot of benefits with it. Because of Java is naturally built by supporting multi-platform usage it will be not a problem by choosing a Server. You can either choose Microsoft based servers or Linux based servers or Apple based servers freely by choice. And because of Java and PostgreSQL are free and open source it can lower the cost of the overall development process drastically.

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4. System Interfaces

4.1 User Interfaces

4.1.1 Look & Feel

The look of the site is designed to be simple and functional. The users can get information about different categories with a quick look at the main page. There will be no invasive advertisements to distract the users.

4.1.2 Layout and Navigation Requirements

The main page is designed to be both simple and show books in different categories. The pages that show particular categories are designed to be functional. A user can quickly change the sorting of the books such as best sellers. The vertical bar on the left side of the screen has buttons to change categories and navigate to different parts of the site. The search bar on top of the screen is quickly accessible on all pages.

4.1.3 Consistency

All layouts and buttons are designed to be similar to the other book shop sites therefore the customer will not have trouble getting used to. Therefore, the system user can search whatever he/she want in the website.

4.1.4 User Personalization & Customization Requirements

The system interface will give users different views for admin, member and not member. When admin enters the systems, admin can add books or remove; modify the site; manipulate the member. When the member enters the login the site, member can buy books or can modify member information, etc.

4.2 Interfaces to External Systems or Devices

4.2.1 Software Interfaces

System has two separate login interfaces for admin and users. Shipment Fulfillment Module and Payment Module has its own interfaces irrelevant to the system. Designed user and admin interfaces have been added to the GUI document.

4.2.2 Hardware Interfaces

The hardware interface will be automatically handled by the DBMS. There won't be an extra hardware interface.

4.2.3 Communications Interfaces

Our program can be later integrated to send emails to the certain users wanted by the Admin in the system. For now, there won't be a communications interface associated with the project.

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5. Business Rules

5.1 Limits

5.1.1 *Maximum purchase limit*

A user can purchase maximum of 5 units of a book in order to not create stock issues and prevent other users to buy the book in case of a discount.

5.1.2 *Dense purchase limit*

It cannot be purchased books too frequently. The user has to group their purchases in a single cargo.

5.1.3 *Search limit*

To reduce the server traffic, it cannot be sent too many searching requests to the server. Every user will be constrained by 5000 requests for every 15 minutes.

5.2 Review Rules

5.2.1 *Abusive Reviews*

User will get warning if he/she writes abusive comments. If warnings are not enough to stop the abusive chat, user can get banned by the system or admin.

6. System Constraints

- The software is realized to use on browsers.
- Java will be used as the programming language in the backend service.
- PostgreSQL will be used as a database system in the program
- React.js will be used as the framework in the frontend service.

7. System Compliance

7.1 Licensing Requirements

Our project is open-source except the software that keeps personal information. The tools we use to build the system will all be free tools like JAVA Spring Boot, PostgreSQL, React.js.

7.2 Legal, Copyright, and Other Notices

The source code can be copied, used and distributed by anyone with using the name Bookify. System was not developed for commercial purposes. Anyone who is attempting to get any personal information from the system by any illegal method will get used by owners of the website. No

7.3 Applicable Standards

We considered the IEEE standards while the system is being developed.

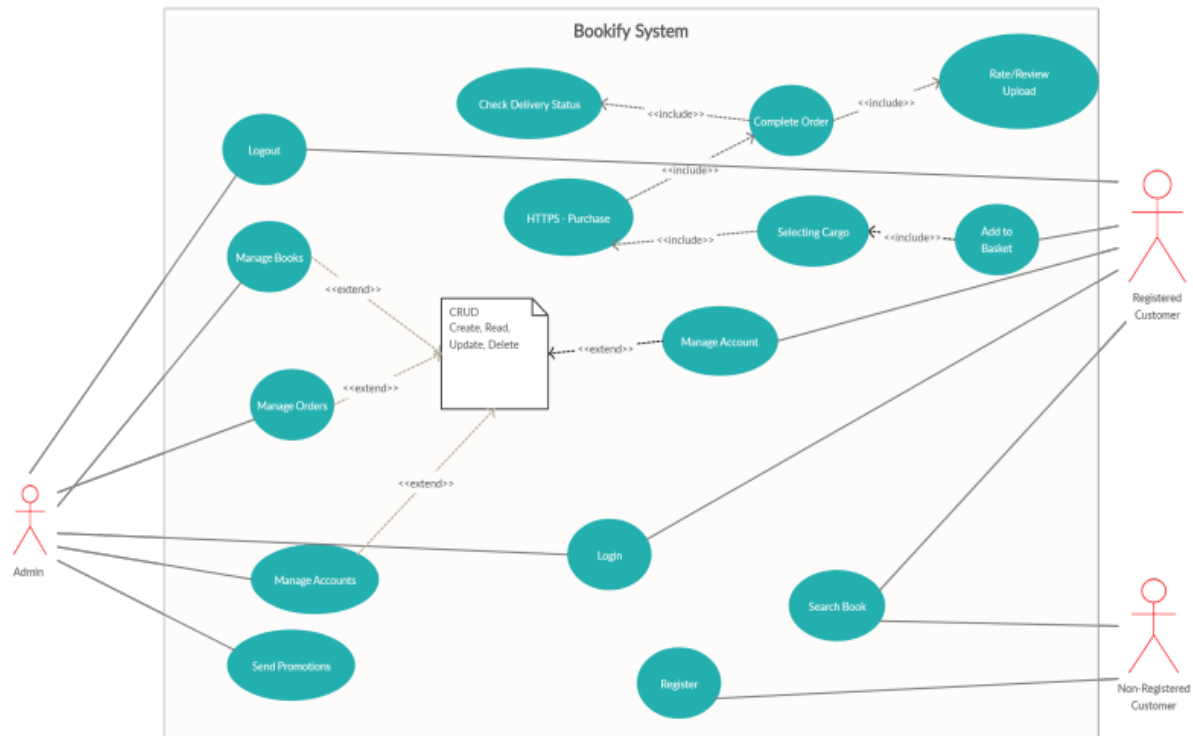
8. System Documentation

For such general operations like searching book or reviewing book rates and comments there are not any requirements. In order to buy books securely a user has to be registered to the system. With registration user can get advertisements relevant to his search/purchase history.

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User can do rate and comment books which he/she had bought from the website. If customer wants to buy book, system will hold on till admin confirms the sale. At this point admin has authority to decline the purchase because of the conditions that are not following the business rules we wrote in this paper.

Admin can manage book database like adding/deleting/editing books or book categories. Nevertheless, admin has privileges to manage customer accounts except for their personal information. Considering too much privileges in admin, still, the website has secure manners for registered users. We will keep people's information in our database, secret.

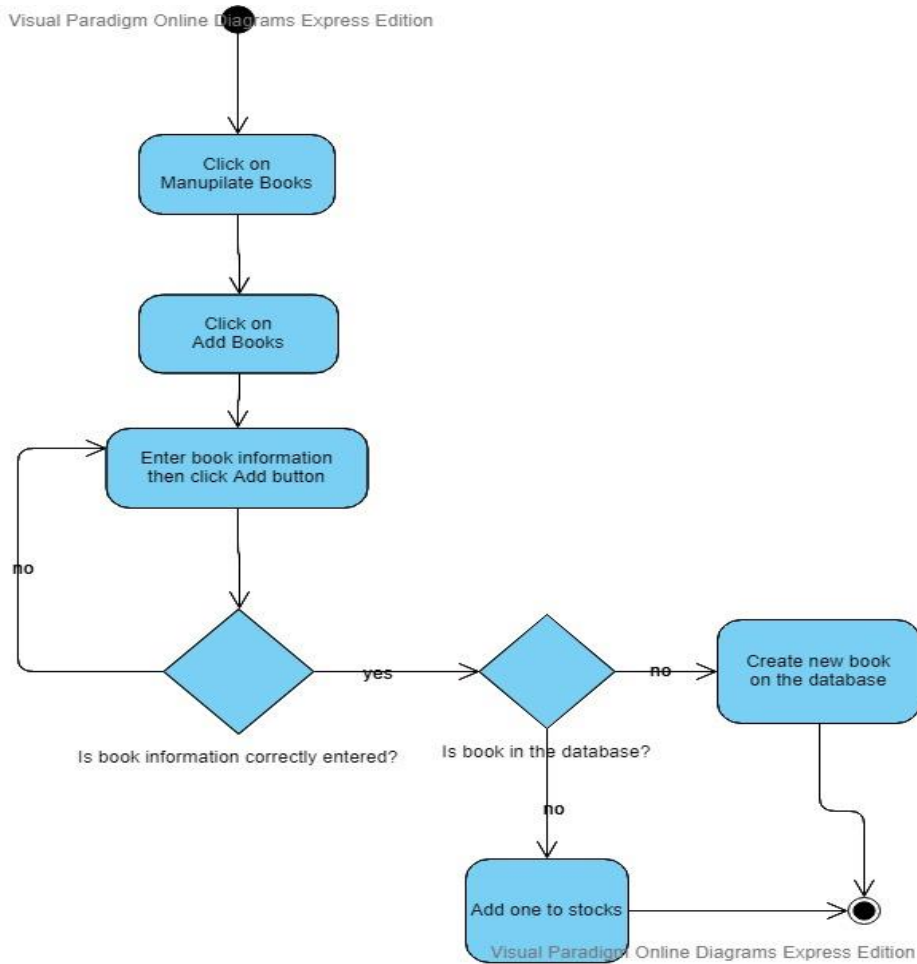


8.1 Activity Diagram

8.1.1 Add Book Process

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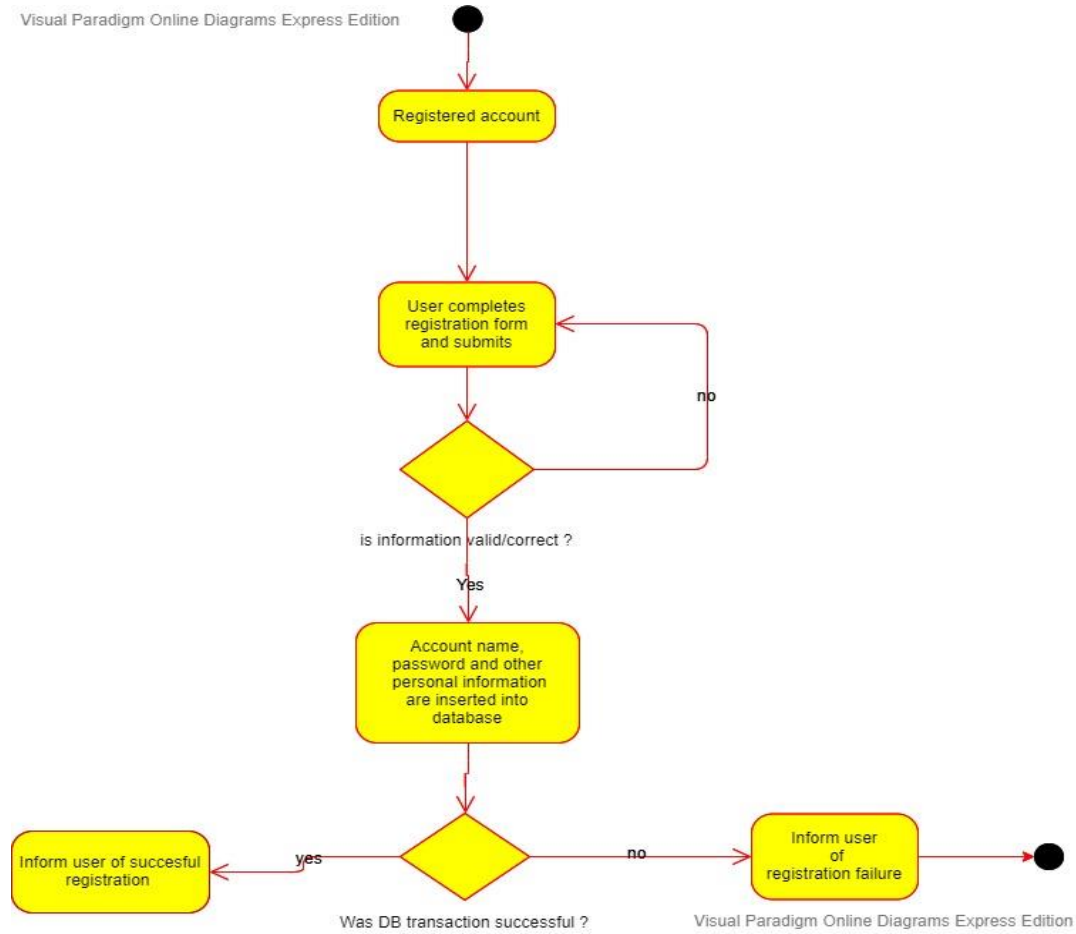
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8.1.2 Register

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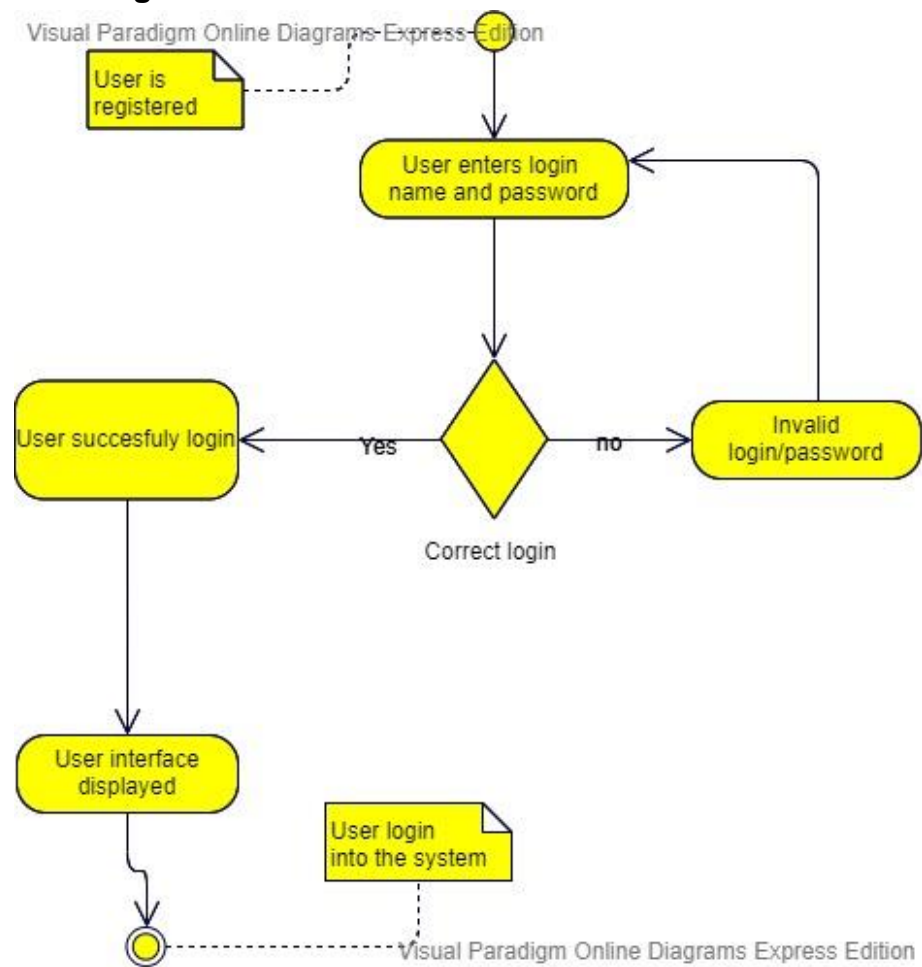
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8.1.3 Login



8.2 ER Diagram

