University
of Windsor

# Bookstagram

## Development Document:

| Dr. Aznam Yacoub | Instructor |
|---|---|
| Dishant Shah | Project Team Member |
| Neel Patel | Project Team Member |
| Siddharth Paliwal | Project Team Member |
| Sayee Shruthi | Project Team Member |
| Abishek Rajagopal | Project Team Member |

## OBJECTIVE:

This document contains all development related documents such as Code documentation, Specifications, Designs & Test Case Scenarios. Moreover, it also contains details related to hardware and software Interfaces and UI screenshots.

## HISTORY:

Market Analysis The below are the list of web applications available in the market differentiating based on customer base, type of content and free to download. We have also mentioned what each application's unique selling point is in the market. Applications available in the market use the concept of eBook reading platform in a community and author's new uploads.

| Applications | Mobile App/Web App | USP | Customer Base | Content | Free/Price |
|---|---|---|---|---|---|
| GOODREADS | Web app | networking with friends, book challenges, book cataloguing, giveaways. | 75,00,000 | Text, Audio, Video | Free |
| LIBRARYTHING | Web app | Catalogue books from Amazon and other libraries. | 23,00,000 | Text, Audio, Video | Chargeable |
| BOOK CROSSING | Web App | Label and share to stranger | 20,00,000 | Text | Free |

# INTRODUCTION

1. Problem Definition:

   Bookstagram is Saas solution which combines social media and reading platform for booklovers and struggling authors who can e-publish books and track virality of the book.

2. Intended Audience and Reading suggestions:

   Target Audience this web application would be.
   - Bibliophile , strong book lovers who can encourage new contents and authors
   - Writers, any authors who wants to see the feedback structure and watch the virality in terms of buying.

3. Product Scope:

   - Applications available in the market use the concept of eBook reading platform in a community and author's new uploads.
   - Bookstagram has Recommendation tree feature where the author has track the virality of their book.
   - Ticker solution is implemented which notifies all users in the community that a new book has been bought.
   - Referral solution will be implemented which makes the users and authors have monetary benefits.

4. References

   - https://ieeexplore.ieee.org/document/5070899
   - https://resources.github.com/videos/github-best-practices/
   - https://confluence.atlassian.com/jira/jira-documentation-1556.html

# OVERALL DESCRIPTION

1. Product perspective

Bookstagram is follow on member of social cataloging website which allows users to search the database of books, annotations, quote and reviews. Users must sign up and buy books from library catalogs and their contacts. Client uses web application as interface which get the connection and result set from backend.
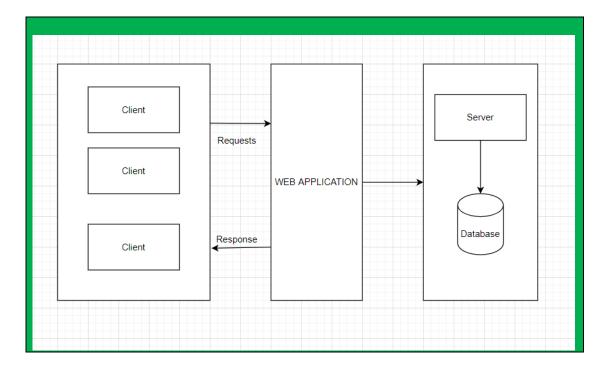


Fig : B/S Architecture of the system

2. Product functions

- **Sign Up on Bookstagram:**
    New users should sign up.Users will also need to verify their account using a link sent to them by mail.
- **Sign In, View and Update profile details:**
    Users can click on edit and update these details and click on save.
- **Like, Comment and Share a post:**
    A user can view all the posts posted by them or by any of their friends on the dashboard. Users can like and comment on a post and it is instantly reflected under that post.
- **Find, Add and Remove friends:**
    Users can accept requests or remove friends by clicking on relevant buttons.
- **View My books, Buy New Books and rate books:**
    A user can click on my bookshelf to view all the books previously bought by the user at a single place.
- **Read Books on the Platform:**
    A user can click on my bookshelf to view all the books previously bought by the user at a single place.
- **Author Dashboard:**
    An author has a dashboard where there is a dropdown of owned books and t their respective recommendation and referral tree to see how these books become viral on Bookstagram platform.
- **Author Upload Book**
    An author user can go to upload books with details like category, title, description, cover photo and PDF.
- **Recommendation Tree:**
    A recommendation/ referral tree consists of the author as the parent node always.

The below shown are data flow diagram which specifies major functions of the product for both users – readers and authors.
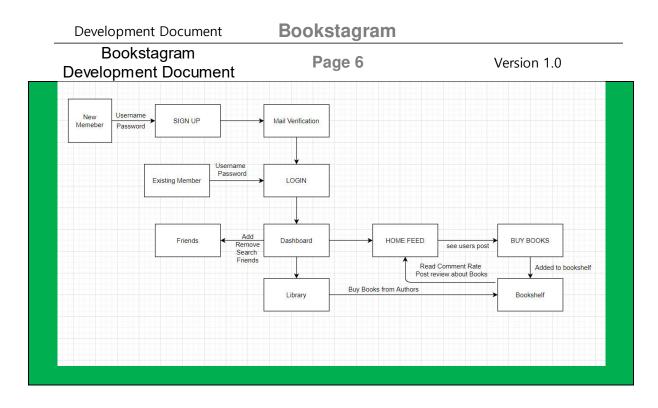
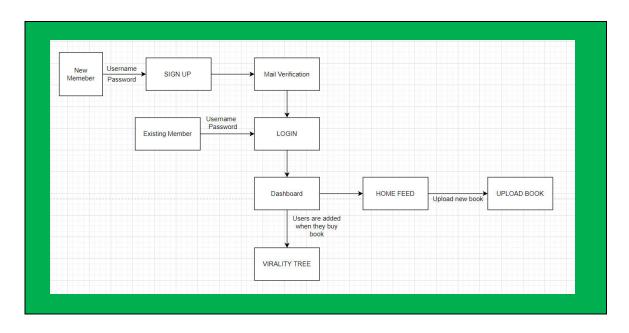Fig : Data flow diagram for readers

Fig :Data Flow Diagram for authors

### 3.User classes and characteristics

Use case view defines what functions the system should provide, and describe what problems the system should help users to solve.The use case diagram consists of such model elements as system, role and case; it also needs to specify the relations between elements, between role and case, as well as between roles. The use case view of the Bookstagram is mainly responsible for describing the relation between role and case. In the system, there are 2 roles: Reader and Author, each of which has their own case.
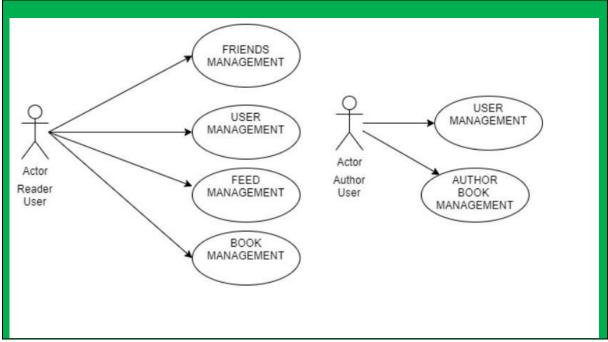


Fig : Use case View for Actors

### 4.Operating Environment

The software needs Linux operating system to deploy the backend server with Python virtual environment and Apache 2 installed for backend server to coexist. All node packages are installed while deploying as there are present in package. Json.

### 5.Design and Implementation Constraints

The below technical constraints are flexible for every phase of software development lifecycle.
Web Browsers: Google chrome, Mozilla Firefox, Internet Explorer, Safari, Opera

| Web Browsers | Google chrome, Mozilla Firefox, Internet Explorer, Safari, Opera |
|---|---|
| **Languages** | Python: v3.6<br>React.js<br>• node v10.19<br>• npm v6.13.0<br>HTML 5<br>CSS  3 |
| **Frameworks** | Django : v3.1 |
| **Database** | MongoDB: v4.4 |
| **Web Server Sofware** | Apache: v2.4 |
| **Management Tools** | JIRA:  v8.6.1<br>GITHUB |
| **Deployment Cloud** | Microsoft Azure for Backend server<br>AWS S3 for frontend |
| **Backend Server Specification** | Size: Standard D2 v3<br>VCPU's :2<br>Memory: 8 GiB<br>Max data disks : 4<br>NIC 2/moderate<br>IOPS/ Read MBps : 3000/46 |
| **Security Considerations** | Private VPC: 10.0.0.0/8 |
| **Regulatory Policies followed** | GDPR<br>CAA |

7. Assumptions and Dependencies

- Operating system:
    - o This application is developed for all web browsers.
- Bandwidth:
    - o Bandwidth plays important role to view the virality live and upload new books. Users must have good bandwidth to hear/ watch podcasts for later developments too. It will be optional.
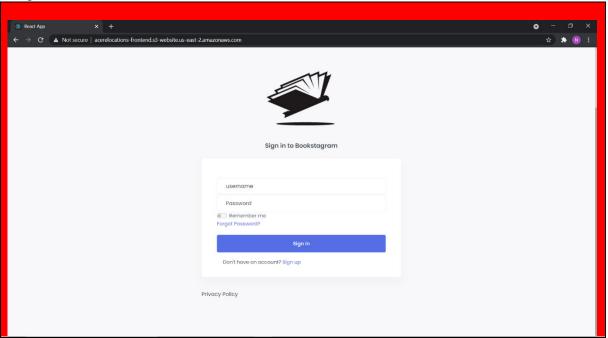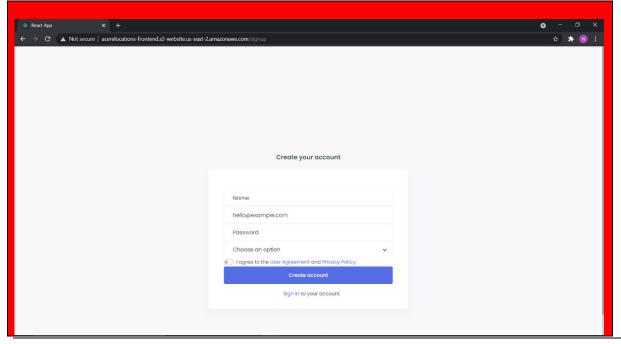
# EXTERNAL INTERFACE REQUIREMENTS

1. User Interfaces

Log-in screen:



Sign-Up Screen: Before Filling up details.
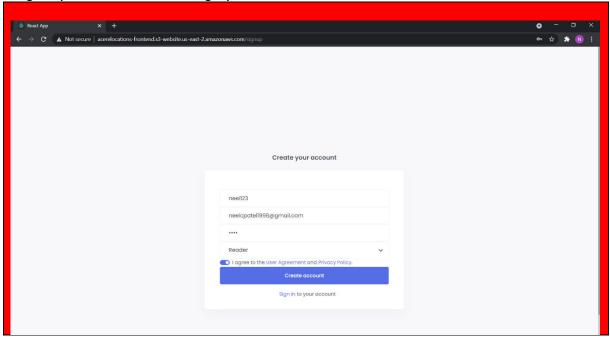
Sign-Up Screen: After Filling up details.



Mail for account verification:
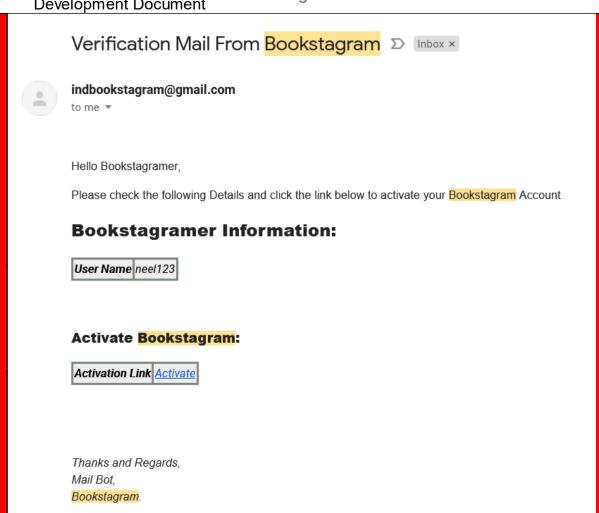
Dashboard after User login:
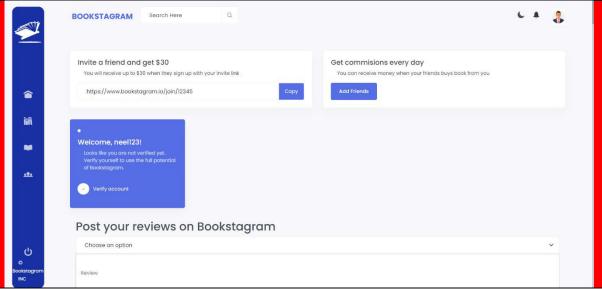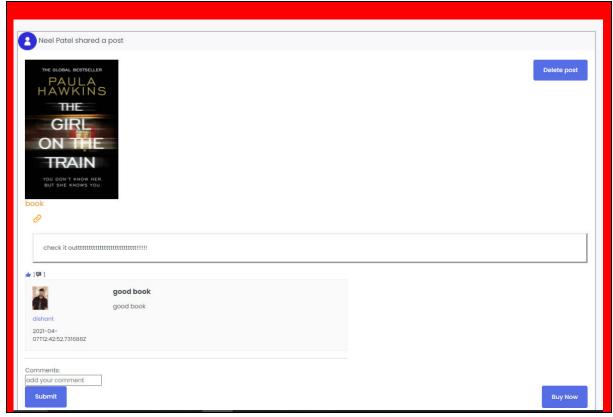
Post in Bookstagram:



My bookshelf UI:
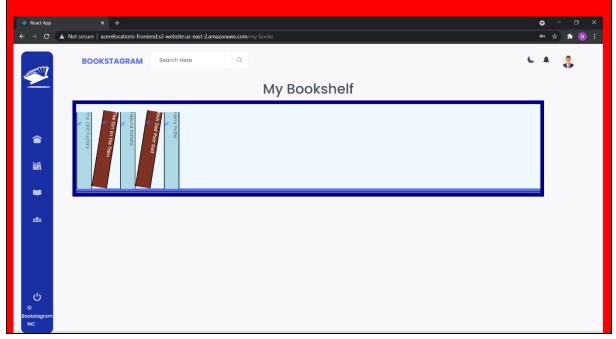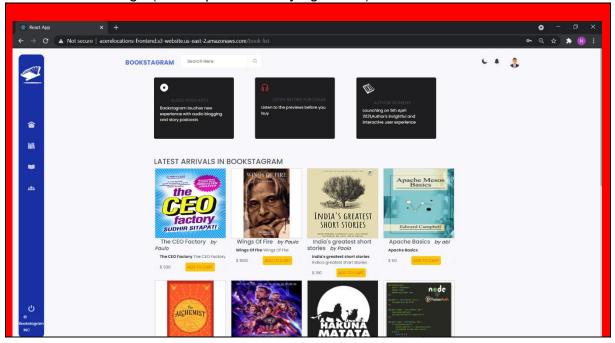
List of Books Page (Marketplace for buying books):



Page for any specific book:
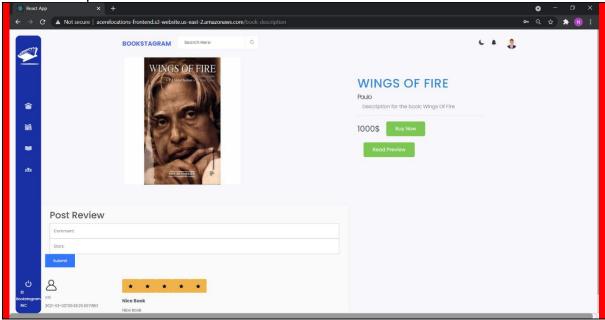
After buying book:



Add new friends UI:
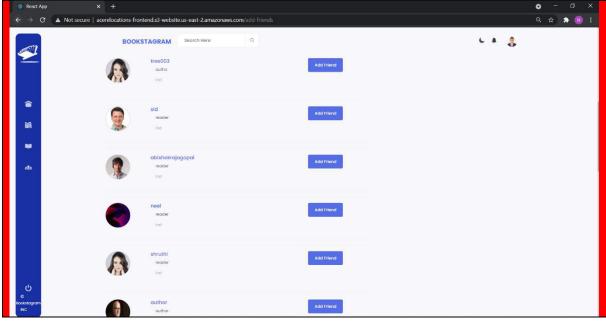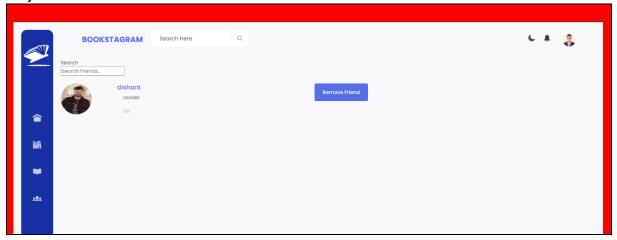
My Friends UI:



My Profile Settings:
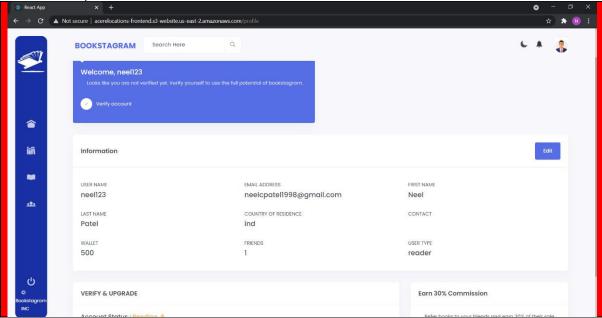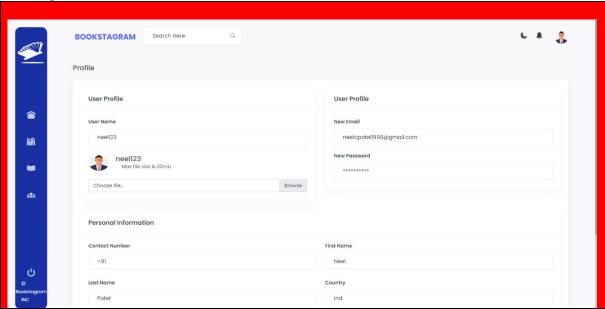
Editing Profile information:
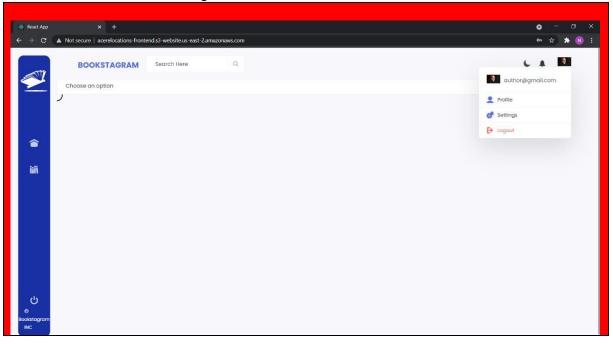


Notifications Ticker:

Dashboard after Author Login:
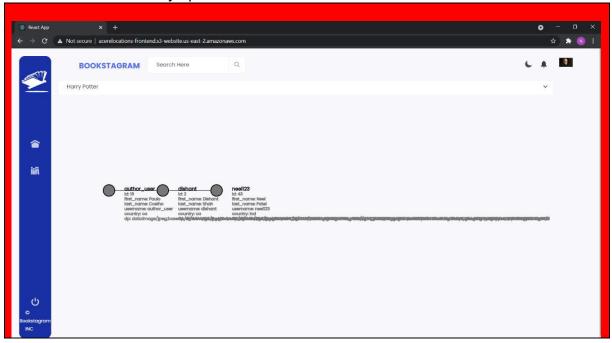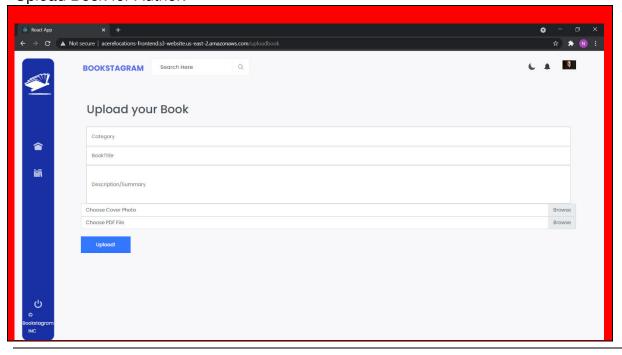
Reference Tree for any specific book:



Upload Book for Author:

2. Hardware interfaces

This application works on any PC and tablets. No other hardware is required.

3. Software interfaces

Since this application is a web application, it is compatible on browser order to perform.

4. Communication interfaces

This application uses email for user verification which allows the user to login to the interface.
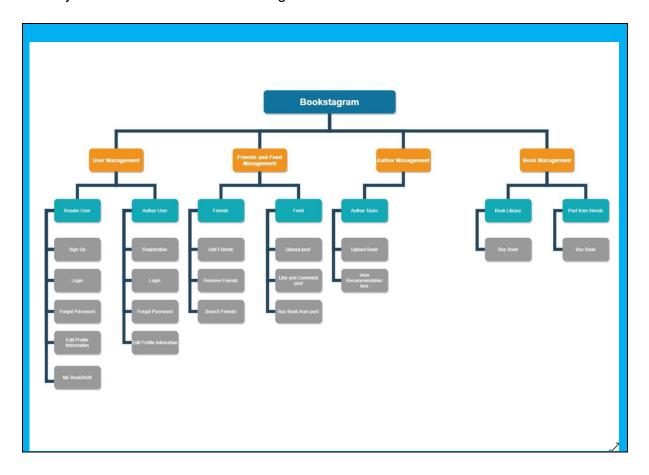
## SYSTEM FEATURES

Bookstagram software has 4 modules: user management, Friends and Feed Management, Author Management and Book Management. The general structure of the system functions is shown in Fig.
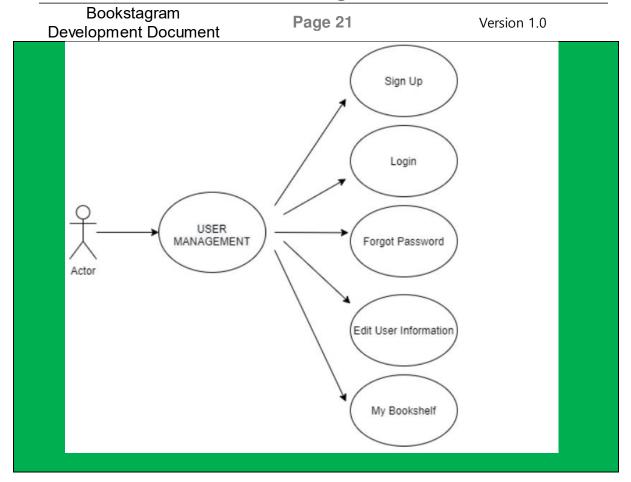


1. USER MANAGEMENT:

Use case diagram of this module:
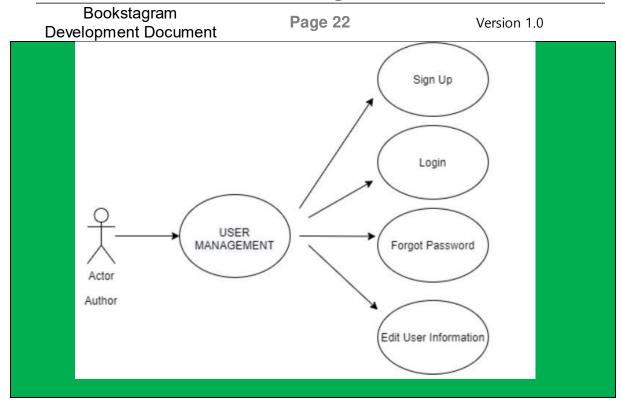
| User Case Number: | 1 |
|---|---|
| Use case Name | User Management – Sign Up |
| Summary | Use case management allows users to Register |
| Actor | Authors and Readers |
| Trigger | Sign Up Button |
| Precondition | Navigate to the website |
| Scenario | When new users enters Bookstagram, he needs to register with User name and password |
| Post Condition | Mail verification |

| User Case Number: | 1 |
|---|---|
| Use case Name | User Management – Login |
| Summary | Use case management allows users to Login |
| Actor | Authors and Readers |
| Trigger | Sign in Button |
| Precondition | Navigate to the website |
| Scenario | When existing users enters Bookstagram, he needs to login with User name and password |

| Post Condition | Dashboard |

| User Case Number: | 1 |
|---|---|
| Use case Name | User Management – Forgot Password |
| Summary | Use case management allows users to retrieve Password |
| Actor | Authors and Readers |
| Trigger | Forgot Password |
| Precondition | Navigate to the website |
| Scenario | When existing users forgets the password we can retrieve the password with mail |
| Post Condition | Password sent in Mail. |

| User Case Number: | 1 |
|---|---|
| Use case Name | User Management – Edit Personal Information |
| Summary | Use case management allows users to edit profile information |
| Actor | Authors and Readers |
| Trigger | My Profile --> Edit Settings |
| Precondition | Logged in to Bookstagram |
| Scenario | When user wants to change profile picture and any information. |
| Post Condition | New Profile information reflected , Changes saved message |

2. Friends and Feed Management :

| User Case Number: | 2 |
|---|---|
| Use case Name | Friends Management - Add/ Remove Friends |
| Summary | Friends Management allows reader to add/ remove friends |
| Actor | Readers |
| Trigger | Add Friends / Remove Friend |
| Precondition | Logged in to Bookstagram |
| Scenario | Reader can add or remove friends to increase or decrease their network |
| Post Condition | Friends are added or remoed in the Friends list |

| User Case Number: | 2 |
|---|---|
| Use case Name | Friends Management – Search Friends |
| Summary | Friends Management allows reader to search friends |
| Actor | Readers |

| Trigger | Search Friend |
|---|---|
| Precondition | Should already have friends |
| Scenario | Reader can search friends with user id |
| Post Condition | Friend div is displayed and filtered based on user input |

| User Case Number: | 2 |
|---|---|
| Use case Name | Feed Management – Create post |
| Summary | Users can create post |
| Actor | Readers |
| Trigger | Create post |
| Precondition | Users should have read this book before posting |
| Scenario | User must give Book Name, Title and review for the book he/she has read |
| Post Condition | A post is added to news feed |

| User Case Number: | 2 |
|---|---|
| Use case Name | Feed Management – Like/Comment Post |
| Summary | Users can like or comment on the shared post |
| Actor | Readers |
| Trigger | Like or comment post |
| Precondition | User must be friends to like or comment on friends post. |
| Scenario | • User can like or comment on own post<br>• User can like or comment on theor friends post |
| Post Condition | Like count is increased after user likes the post |
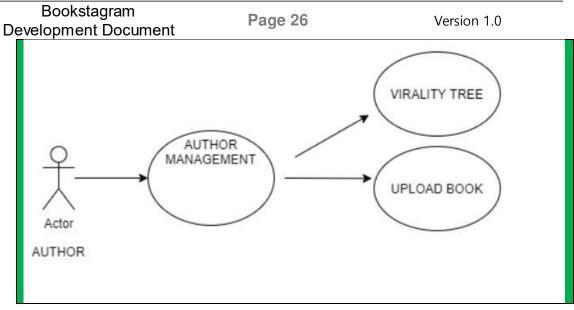
3. Author Management:

| User Case Number: | 3 |
| --- | --- |
| Use case Name | Author Management – Upload book |
| Summary | Authors can upload soft copy of the book |
| Actor | Author |
| Trigger | Upload Book |
| Precondition | Registered as author |
| Scenario | Author can upload his softcopy with copyrights, book name, author name and cover picture |
| Post Condition | Book will be added to library |

| User Case Number: | 3 |
| --- | --- |
| Use case Name | Author Management – Virality Tree |
| Summary | Authors can view virality tree |
| Actor | Author |
| Trigger | Show virality tree |
| Precondition | Registered as author |
| Scenario | Author can view recommendation tree when every user buys the book |
| Post Condition | Recommendation tree expands when every user buys |
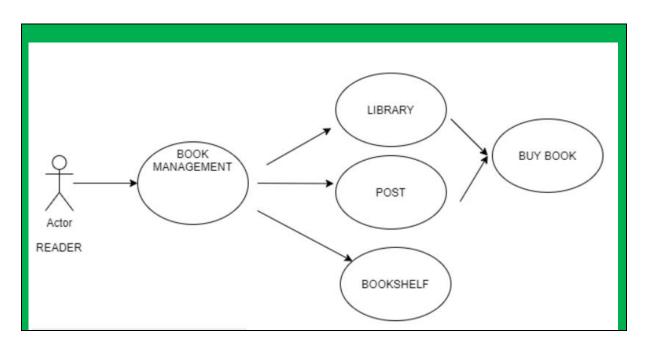
4. Book Management:



| User Case Number: | 4 |
|---|---|
| Use case Name | Book Management – Buy from Library |
| Summary | Library of Books are available where user can buy books from author |
| Actor | Reader |
| Trigger | Library |
| Precondition | Registered as Reader |
| Scenario | user buys the book from category of books available and is uploaded by the user |
| Post Condition | User can buy book from library and added to recommendation tree |

| User Case Number: | 4 |
|---|---|
| Use case Name | Book Management – Buy from post |
| Summary | Books can be bought from post of readers friends |
| Actor | Reader |
| Trigger | Library |
| Precondition | Registered as Reader |

| Scenario | Buy book from post |
|---|---|
| Post Condition | User can buy book from post and added to recommendation tree |

| User Case Number: | 4 |
|---|---|
| Use case Name | Book Management – Bookshelf |
| Summary | Once user buys the book , it is added to user's bookshelf |
| Actor | Reader |
| Trigger | Library |
| Precondition | Reader should have already bought a book |
| Scenario | After book buys book is added to bookshelf |
| Post Condition | Book is added to bookshelf once  it is bought, read online is option is given all bought books |

# Non-Functional Requirements

1. Performance Requirements

- HIGH AVAILABILITY:
    - The solution is deployed in AWS S3
    - We have Backup for Backend Server serving Blue –Green Deployment which makes the application have less than 5 minutes downtime.
- HIGH LATENCY
    - Amazon CloudFront, the volume of application origin requests is automatically reduced.
    - Content is stored in CloudFront's edge and regional caches and only fetched from origins when needed.
- MONITORING AND AUTOSCALING
    - Backend server is continuously monitored.
    - Step wise autoscaling for backend server which handle requests throttling with above 1000.

2. Safety Requirements

    - SQL injections attacks are handled by the application which makes the user account safe
    - Policies like GDPR and CAA are followed so that users information and copyrights are kept intact.

3. Security Requirements

    - The backend service is deployed in virtual private network of Azure which is not available to public and makes the application more secure.
    - User information and password is hashed while storing in backend.

# DESIGN MODEL:

Sequence model for both authors and readers are given below:

| Author User | | Front End | | Back End | | DataBase |
| --- | --- | --- | --- | --- | --- | --- |

1: requestRecommendationTree()

1.1: requestTree()

2: requestNodes()

2.1: getNodes()

3: getRecommendationTree()

1.2: getTree()

3.1: requestUploadBook()

3.1.1: requestStoreBook()

4: storeBook()

4.1: success()

3.1.2: UploadSuccessResponse()

3.1.2: responseSuccess()
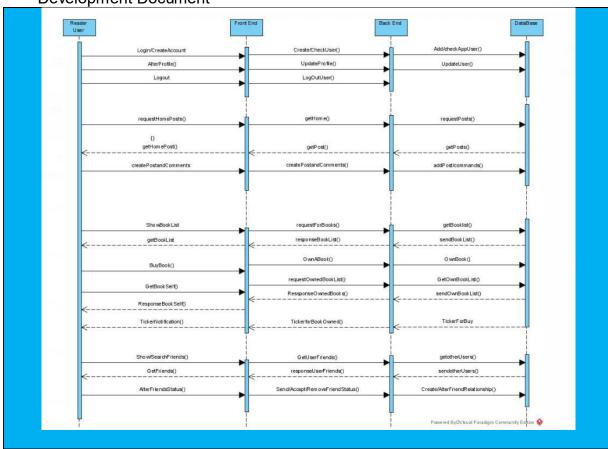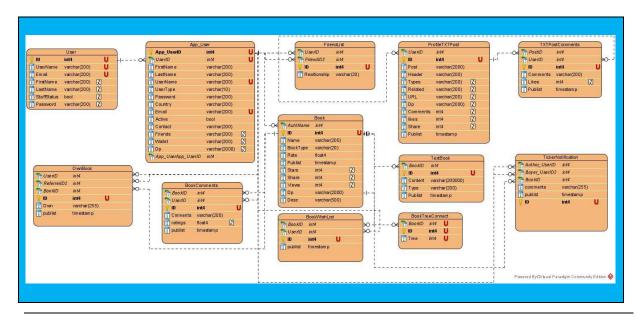
Powered By□Visual Paradigm Community Edition ◆

DB design model:

# CODE DOCUMENTATION

## Frontend Files:

Frontend is developed in React.js, HTML and CSS is used for styling. Frontend consist of the following folders and files.

• **HTML Folder** – Consist of static html files used to create components in React.js.
• **Public Folder** – Consists of default logo images and robots.txt file for security.
• SRC Folder consist of the main frontend code:
  ◦ **Assets**: Has the images, CSS, javascript and book PDF used in the UI.
  ◦ **Components**: components consist of commonly used React components by other unique components like header, sidebar and loader.
  ◦ **Http**: This folder has the routing information to the backend API using axios package.
  ◦ **Routes**: This folder consists of major frontend routes for redirection and linking,
  ◦ **Store**: This folder is used to maintain the Redux code in React.js, it helps the code remember a state by storing as a local storage.
  ◦ **Views**: This folder consists of all the major unique frontend pages as react components and integrated with relevant API.
• **Package.JSON** – is a file with all the package information and relevant versions.

## Frontend Deployment:

• **Ubuntu/ Linux**
  ◦ Update the system
    sudo apt update
  ◦ Install Node and npm
    sudo apt install nodejs npm
  ◦ Check if the node version is 10.19 and npm is 6.13.0
    nodejs –version
    npm -v
  ◦ Install all dependencies
    npm install
  ◦ Start the Code
    npm start

• **Windows**

◦ Use the following tutorial if you are using windows:
https://blog.theodo.com/2017/01/use-git-ssh-and-npm-on-windows-with-git-bash/


## Backend

Following is the directory structure from the backend:

**Directory Tree Diagram**

https://github.com/sayeeshruthiwindsor/BookHUB/blob/main/Backend_DirectoryInfo

***Note: Backend is live and is not required to be deployed.***

Backend Deployment


## Django Configuration

- pip3 install Django

- pip3 install djangorestframework

- pip3 install djangorestframework-jsonapi

- pip3 install djongo

- pip3 install django-unixtimestampfield

- pip3 install django-fernet-fields==0.6

- pip3 install -r requirement.txt


## Backend Server Configuration

- hostnamectl set-hostname Bookstagram //creating Host name

- sudo vi /etc/hosts server-ip hostname // entering in hosts

- sudo apt-get install ufw // uncomplecated firewall

- sudo ufw default allow outgoing

- sudo ufw allow 80 // Apache2 Hosted Post

- sudo ufw allow ssh

- sudo ufw enable

- sudo ufw status

- scp -r Bookstagram green@IP:/home/book/Bookstagram (cp local dir to server)

- sudo apt-get install python3-pip (pip3)

- sudo apt-get install python3-venv (virtual env)

- python3 -m venv venv (create venv)

- source venv/bin/activate (Activate)

- pip3 install django

- pip3 install djongo // Django to MongoDB helper

- install MongoDB Server --> https://docs.mongodb.com/manual/tutorial/install-mongodb-on-ubuntu/

- pip3 install wheel

- pip3 install -r require.txt

- pip3 install django-cors-headers // Django library to handle CORS headers

- python manage.py makemigrations (Migrate Django)

- python manage.py migrate

- check code

- sudo apt-get install apache2

- sudo apt-get install libapache2-mod-wsgi-py3

- sudo vi book.conf (Apache conf File)

- sudo systemctl start apache2
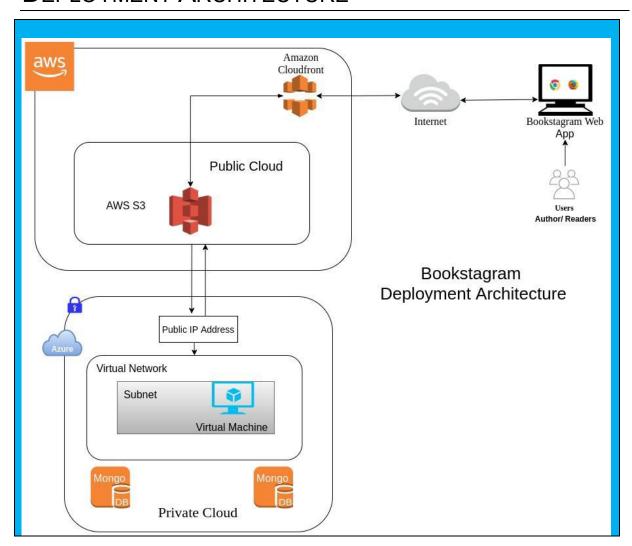
# DEPLOYMENT ARCHITECTURE



Bookstagram
Deployment Architecture

- Users: We have two kind of users Authors and Readers on this platform.
- Bookstagram Web App: Web app is hosted on the internet and can be accessed using browsers like Chrome and Mozilla.
- Amazon CloudFront: Is the content delivery network that helps to deliver images, videos and other data faster to the end user.
- AWS S3: It is a static bucket where we have hosted our frontend build. It is in the Public Cloud to facilitate connection from any IP.
- Azure Virtual Machine: Bookstagram backend is hosted on Azure virtual machine with MongoDB as the database in the private cloud. This private cloud has been given the access from the frontend URL and default localhost URL to decrease any chance of attacks.

# TESTING SCENARIOS

| Test Scenario | Test Scenario Description | Test Cases |
|---|---|---|
| 1 | **Sign-In Page Functionality** | **Case-1**. Verify system behavior when valid username and password is entered. **Case-2**. Verify system behavior when invalid username and valid password is entered. **Case-3.** Verify system behavior when valid username and invalid password is entered. **Case-4**. Verify system behavior when invalid username and invalid password is entered. **Case-5.** Verify system behavior when username and password are left blank and Sign in entered. **Case-6**. Verify Forgot Password is working as expected. **Case-7**. Verify system behavior when ""Remember Me" is Verified. **Case-8**. Verify Privacy Policy button is working as expected. **Case-9**. Verify Sign Up button is redirecting to Sign-Up page as expected. |
| 2 | **Sign-Up Page Functionality** | **Case-1.** Verify that system generates a validation message when clicking on |

| | | Create account button without filling all the fields. **Case-2.** Verify that system generates a validation message when entering existing username. **Case-3.** Verify that system generates a validation message when entering existing email id. **Case-4.** Verify that the validation of email field by entering incorrect email id. **Case-5.** Verify that the password is in encrypted form when entered. **Case-6.** Verify that the drop-down list occurs choosing type of option for user type. **Case-7.** Verify that the "I agree to the User Agreement and Privacy Policy" Verify box is unselected by default. **Case-8.** Verify Sign in button is redirecting to Sign-In page as expected. |
|---|---|---|
| | **User      Type      -  Reader** | |
| 3 | **Dashboard Page Functionality** | **Case-1**. Verify that the Bookstagram title and symbol clearly without distortion. **Case-2**. Verify that the Side-Menu Bar and symbols located on it clearly without distortion. **Case-3.** Verify that the Welcome Message appears with the username on it clearly. **Case-4.** Verify that the user profile photo on Top right corner is shown clearly. |

**Case-5.** Selecting User Profile photo on Top right corner gives drop down list options.

**Case-6**. Selecting Profile option from the drop-down menu redirects to the User Profile page.

**Case-7**. Selecting Settings option from the drop-down menu redirects to the Settings page.

**Case-8.** Selecting Log out option from the drop-down menu logs the user out and bring back to Sign In page.

**Case-9**. Verify that the "Add Friends" Button redirects to the Add Friends Page.

**Case-10.** Verify that the select option from drop down list, under Post Your Reviews Section, works correctly.

**Case-11**. Verify that the write option for writing a review in the text box, under Post Your Reviews Section, works correctly.

**Case-12**. Verify that the clicking on Submit after selecting option and writing review, under Post Your Reviews Section, works correctly

**Case-13.** Verify that the user could clearly see the shared post which contains contains books and reviews written about it respectively.

**Case-14.** Verify for each review in the shared post the user can see the user profile photo, review and the timestamp of when the

| | | |
|---|---|---|
| | | review is added clearly. **Case-15**. Verify that the user can add comments after writing in text box and clicking the "Submit" Button. **Case-16.** Verify that the Buy Button works correctly. **Case-17.** Verify that the Search Box on the top of page works correctly or not. **Case-18.** Verify that the Moon and Bell icon on top right corner works fine or not. |
| 4 | **User Profile Page Functionality** | **Case-1.** Verify that the Bookstagram title and symbol clearly without distortion. **Case-2.** Verify that the Side-Menu Bar and symbols located on it clearly without distortion. **Case-3.** Verify that the Welcome Message appears with the username on it clearly. **Case-4.** Verify that the Search Box on the top of page works correctly or not. **Case-5.** Verify that the username is displayed correct or not. **Case-6**. Verify that the email address is displayed correct or not. **Case-7**. Verify that the first name is displayed correct or not. **Case-8.** Verify that the last name is displayed correct or not. **Case-9**. Verify that the country of residence is displayed correct or not. |

| | | |
| --- | --- | --- |
| | | **Case-10**. Verify that the contact is displayed correct or not. **Case-11**. Verify that the wallet is displayed correct or not. **Case-12.** Verify that the friends is displayed correct or not. **Case-13.** Verify that the user type is displayed correct or not. **Case-14.** Verify that the contact is displayed correct or not. **Case-15**. Verify Edit button is redirecting to Settings page as expected. **Case-16.** Verify that the user profile photo on top right corner is shown clearly. **Case-17.** Verify User Profile Photo drop down menu and it's all options are working perfectly or not. |
| **5** | **Settings Page Functionality** | **Case-1.** Verify that the Bookstagram title and symbol clearly without distortion. **Case-2.** Verify that the Side-Menu Bar and symbols located on it clearly without distortion. Case-3. Verify that the Welcome Message appears with the username on it clearly. **Case-4.** Verify that the Search Box on the top of page works correctly or not. **Case-5.** Verify that the textbox and placeholder of username is displayed correct and working |

properly or not.

**Case-6.** Verify that the textbox and placeholder of new email address is displayed correct and working properly or not.

**Case-7**. Verify that the textbox and placeholder of first name is displayed correct and working properly or not.

**Case-8.** Verify that the textbox and placeholder of last name is displayed correct and working properly or not.

**Case-9.** Verify that the textbox and placeholder of country is displayed correct and working properly or not.

**Case-10.** Verify that the textbox and placeholder of contact number is displayed correct and working properly or not.

**Case-11**. Verify that the textbox and placeholder of user type is displayed correct and working properly or not.

**Case-12**. Verify that the choose file option for user profile image is letting you browse from the image files stored on your computer or not.

**Case-13**. Verify that the validation of email field by entering incorrect email id.

**Case-14**. Verify that the password is in encrypted form when entered.

**Case-15.** Verify that system generates a validation message when entering existing

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| | | username.<br>**Case-16.** Verify that system generates a validation message when entering existing email id.<br>**Case-17.** Verify Save button is successfully saving the changes and reflecting it on User Profile Page.<br>**Case-18.** Verify that the user profile photo on top right corner is shown clearly.<br>**Case-19.** Verify User Profile Photo drop down menu and it's all options are working perfectly or not. |
| 6 | **Side-Menu Bar Functionality** | **Case-1.** Verify that the Bookstagram symbol appears clearly on it or not<br>**Case-2.** Verify that all the icons appear clearly on it or not.<br>**Case-3.** Verify that clicking "House" Icon successfully redirects to Dashboard page, from any other pages.<br>**Case-4**. Verify that clicking "Book-Shelf" Icon successfully redirects to Bookshelf page, from any other pages.<br>**Case-5.** Verify that clicking "Open Book" Icon successfully redirects to Book List page, from any other pages.<br>**Case-6.** Verify that clicking "Friends" Icon successfully redirects to My Friends page, from any other pages.<br>**Case-7.** Verify that clicking "Power" Icon successfully |

| | | redirects to Dashboard page, from any other pages. **Case-8.** Verify that the "Bookstagram INC" message appears clearly on it or not. |
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| 7 | **Book-Shelf page Functionality** | **Case-1.** Verify that the Bookstagram title and symbol clearly without distortion. **Case-2.** Verify that the Side-Menu Bar and symbols located on it clearly without distortion. **Case-3.** Verify that the user profile photo on top right corner is shown clearly. **Case-4.** Verify User Profile Photo drop down menu and it's all options are working perfectly or not. **Case-5.** Verify that the My Bookshelf title is written properly. **Case-6.** Verify that Books on shelf is moving when hovering with the cursor on it. **Case-7.** Verify that by clicking on any Book, redirected to its pdf. |
| 8 | **Book-List page Functionality** | **Case-1.** Verify that the Bookstagram title and symbol clearly without distortion. **Case-2.** Verify that the Side-Menu Bar and symbols located on it clearly without distortion. **Case-3**. Verify that the user profile photo on top right corner is shown clearly. **Case-4.** Verify User Profile Photo drop down menu |

| | | and it's all options are working perfectly or not.<br>**Case-5.** Verify that the Audio Podcast is appearing fine.<br>**Case-6.** Verify that the Listen Before Purchase is appearing fine.<br>**Case-7**. Verify that the Author Screens is appearing fine.<br>**Case-8.** Verify that each and every Book is appearing correctly along with its cover, name, price and Add to cart option.<br>**Case-9.** Verify that on clicking on Book, users are redirected to its Book Description Page. |
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| 9 | **Book-Description page Functionality** | **Case-1.** Verify that the Bookstagram title and symbol clearly without distortion.<br>**Case-2.** Verify that the Side-Menu Bar and symbols located on it clearly without distortion.<br>**Case-3.** Verify that the user profile photo on top-right corner is shown clearly.<br>**Case-4.** Verify User Profile Photo drop down menu and it's all options are working perfectly or not.<br>**Case-5.** Verify that Comment text box is working fine.<br>**Case-6.** Verify that Stars text box is working fine.<br>**Case-7.** Verify that Submit button is working fine.<br>**Case-8.** Verify for each review for the book the user can see the user profile photo, review and |

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| | | the timestamp of when the review is added clearly.<br>**Case-9.** Verify on the right side of the page Buy now Button functionality is working fine.<br>**Case-10.** Verify on the right side of the page Read Preview Button is redirecting to the first few pages of the book. |
| 10 | **My-Friends page Functionality** | **Case-1.** Verify that the Bookstagram title and symbol clearly without distortion.<br>**Case-2.** Verify that the Side-Menu Bar and symbols located on it clearly without distortion.<br>**Case-3.** Verify that the user profile photo on top right corner is shown clearly.<br>**Case-4.** Verify User Profile Photo drop down menu and it's all options are working perfectly or not.<br>**Case-5.** Verify that each and every Friend is appearing correctly along with its profile photo, username, user type and country.<br>**Case-6**. Verify that when the Remove Friend button is clicked it successfully removes friend from list.<br>**Case-7.** Verify that when the Accept Friend button is clicked it successfully adds friend into the list.<br>**Case-8.** Verify that the Search Friends Textbox is working perfectly and searching the friends according to the alphabets typed in it. |

| 11 | **Add-Friend's page Functionality** | **Case-1.** Verify that the Bookstagram title and symbol clearly without distortion.<br>**Case-2**. Verify that the Side-Menu Bar and symbols located on it clearly without distortion.<br>**Case-3.** Verify that the user profile photo on top right corner is shown clearly.<br>**Case-4.** Verify User Profile Photo drop down menu and it's all options are working perfectly or not.<br>**Case-5.** Verify that each and every user to add friend is appearing correctly along with its profile photo, username, user type and country.<br>**Case-6.** Verify that when the Add Friend button is clicked it successfully removes user from the list and sends the friend request.<br>**Case-7.** Verify that the Search Textbox is working perfectly and searching the users according to the alphabets typed in it. |
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| | **User Type-Author** | |
| 12 | **Dashboard page Functionality** | **Case-1.** Verify that the Bookstagram title and symbol clearly without distortion.<br>**Case-2.** Verify that the Side-Menu Bar and symbols located on it clearly without distortion.<br>**Case-3.** Verify that the Welcome Message |

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| | | appears with the username on it clearly. **Case-4.** Verify that the User Profile photo is shown clearly on top right corner. **Case-5.** Selecting User Profile photo on Top right corner gives drop down list options. **Case-6.** Selecting Profile option from the drop-down menu redirects to the User Profile page. **Case-7.** Selecting Settings option from the drop-down menu redirects to the Settings page. **Case-8.** Selecting Log out option from the drop-down menu logs the user out and bring back to Sign In page. **Case-9**. Verifying the book selecting drop-down menu option is working perfectly. **Case-10.** Verifying that after the book is selected from the option, author could see the *Recommendation Tree* related to the Book respectively. **Case-11.** Verify that the Moon and Bell icon on top right corner works fine or not. |
| 13 | **Side-Menu Bar Functionality** | **Case-1.** Verify that the Bookstagram symbol appears clearly on it or not **Case-2.** Verify that all the icons appear clearly on it or not. **Case-3**. Verify that clicking "House" Icon successfully redirects to Dashboard page, from any other pages. **Case-4.** Verify that clicking |

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| | | "Book-Shelf" Icon successfully redirects to Upload Book page, from any other pages.<br>**Case-5.** Verify that clicking "Power" Icon successfully redirects to Dashboard page, from any other pages.<br>**Case-6.** Verify that the "Bookstagram INC" message appears clearly on it or not. |
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| 14 | **Upload Page Functionality** | **Case-1.** Verify that the Bookstagram title and symbol clearly without distortion.<br>**Case-2.** Verify that the Side-Menu Bar and symbols located on it clearly without distortion.<br>**Case-3**. Verify that the user profile photo on top right corner is shown clearly.<br>**Case-4.** Verify User Profile Photo drop down menu and it's all options are working perfectly or not.<br>**Case-5**. Verify that the textbox and placeholder of category is displayed correct and working properly or not.<br>**Case-6.** Verify that the textbox and placeholder of book title address is displayed correct and working properly or not.<br>**Case-7.** Verify that the textbox and placeholder of description is displayed correct and working properly or not.<br>**Case-8.** Verify that the choose file option for cover photo image is letting you |

| | | browse from the images of book covers files stored on your computer or not. **Case-9.** Verify that the choose file option for pdf file is letting you browse from the pdf files of book stored on your computer or not. **Case-10.** Verify that the Upload button is successfully clicking and saving the book cover photo and its pdf file into the database of the books related to particular author or not. |
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