		Theme Name : Smart Education
SMART INDIA HACKATHON 2023	आयुष मंत्रालय Ministry of Ayush	**Team Name :** OJAS

Ministry/ Organisation Name/Students Innovation: Ministry of AYUSH
PS Code : SIH1340
Problem Statement Title : Application for Assessment of Quality of Textbook/ Reference Books/ E- Book

Theme Name : Smart Education
Team Name : OJAS
Team Leader Name : Prem Mungle
College Code : C-58531
Institute Name : Bajaj Institute of Technology, Wardha

OJAS

Impact

- Misleading Information: Poor-quality medical books may contain inaccurate or outdated information, leading to incorrect treatment decisions.
- Hindered Learning: Medical students rely heavily on textbooks for their education. Low-quality books can hinder their understanding, making it challenging to grasp essential concepts.
- Compromised Patient Care: If medical professionals rely on subpar resources, patient care may suffer. Misinformed doctors could make critical errors in diagnosis or treatment.
- Wasted Time and Money: Students and institutions invest significant time and money in textbooks. Poor-quality books can be a waste of these resources.
- Outdated Practices: Medicine is constantly evolving. Outdated books can perpetuate practices that are no longer considered best standard, potentially endangering patients.
- Impact on Research: Low-quality books can affect research quality, as they may not provide the necessary foundation for evidence-based studies.

Proposed Solution

1. We will be developing a website to provide the functionality for assessing the quality of books using predetermined NCISM criteria with mechanism to collect feedback from the global audience.
2. Authors and publishers will be provided with the functionality to submit the book information to the **National Commission for Indian System of Medicine** (NCISM) for review.
3. The NCISM will be provided with the dashboard to assign reviewers for the book. NCISM and CCIM will provide **syllabus** and according to syllabus reviewer will review the book.
4. Reviewers will receive **requests** from the NCISM to evaluate these books **(maximum 3 reviewer per book)**. Reviewers have the option to accept or reject the request to review a book. If they **accept**, they will be provided with a functionality to evaluate the book based on various criteria as prescribed by NCISM. These criteria include the credibility of the author, publisher, the physical presentation etc.
5. Once the review is **complete**, the reviewer will send a **detailed report** to NCISM. Then **NCISM will be provided with the mechanism to convene the meeting of the committee** and upload the **final decision** to approve or reject the book to the book publisher.
6. We are developing a Books E-Marketplace for students to buy the NCISM approved books The book publisher will be provided with functionality to manage their books inventory on the provided platform.
7. On the E-Marketplace, we are developing a **feedback** system that will allow **students and teachers(verified)** from around the **world** to share their feedback (based on provided Questionnaires). This feedback will be sent to the NCISM & author/publisher for improving the quality of the books in further editions.
8. Teachers will be provided with the functionality to register on portal, give feedback for the books, recommend books to their students, share the books amongst peers.
9. Colleges readers club will be provided with the functionality to form a group on the portal and the share books review the buyers to buy the books according to their needs.

Objectives

- **Quality Assurance**: Ensure that medical textbooks meet a high standard of quality books.
- **Preventing Poor Quality of Education**: prevent students from falling into the trap of substandard textbooks which can lead to a decline in the quality of education and medical practitioners.
- **Evaluation**: Enable reviewers to review books more accurately with the help of parameter.
- **Guiding Students:** Help students to choose the best textbooks recommended by **Teachers and NCISM**.
- **Global Student Feedback:** Feedback from all students across the globe.
- **Availability of books:** Make books easily accessible to everyone.

Quality books assessment scale

In addition to NCISM parameters here are few additional parameters to maintain quality books, reference books and E-Books.

| Sr. No.	Additional Parameters	Total score
1.	Introduce new topics by referencing to what the learner already knows.	10
2.	Pairing graphics with text.	10
3.	Interleaving different but related topics and skills.	10
4.	Practical knowledge.	10
5.	Try to cover complex topics with the help of videos attach video reference by the author itself.	10
6.	Every chapter consist of 5 marks and in addition apply NCISM subject matter parameters.	50
	Total Score	100

Parameter for textbook quality assessment scale NCISM [1]

Sr. No.	Criteria	Total score
A	Author Credibility	50
B	Publisher credibility	25
C	In general	14
D	Physical appearance, structured & organisation	130
E	Subject matter	81
F	Language	24
G	Illustrations	28
	Total Score	352

Rating Parameter for Student & Teachers

Sr. No.	Parameter	Score
1	How easily book is readable (Language)	50
2	Quality of content in depth, short etc.	20
3	Font size, font style	15
4	Visuals illustrators used	15
	Total	100

Effective Score Range for Star allocation

- 0<=Score<=20 ★
- 20<=Score<=40 ★★
- 40<=Score<=60 ★★★
- 60<=Score<=80 ★★★★
- 80<=Score<=100 ★★★★★
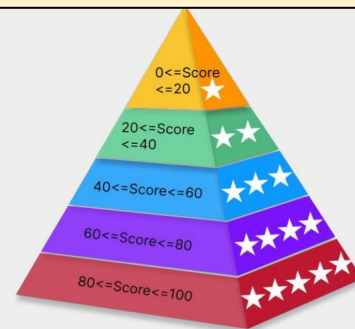
Stakeholders

Author / Publisher   Reviewer   NCISM   Teacher   Student

MINISTRY OF AYUSH

References :
[1]Textbook Quality Assessment Scale - NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE NEW DELHI, Textbook Quality Assessment Scale.pdf 2023 Sept 20

Modules of Web Portal

Application Form
Authors or publishers can request a to get book review, can receive scores, feedback, and get recommendations through the NCISM.

Reviewer
The reviewer will evaluate the book based on specific criteria, submit a comprehensive report with scores to NCISM, and provide feedback and suggestions to the author or publisher.

NCISM Committee Members
A committee will make the final decision regarding the accuracy of scores and reviews, as well as whether there is any bias, and whether to approve or reject.

Feedback
Students and teachers worldwide can provide valuable feedback and suggestions, and we will analyze sentiment, intent detection and share them with NCISM, authors, or publishers to enhance quality.

Book Marketplace
Books approved by NCISM will be available for purchase in the marketplace and with the help of analytical view on marketplace buyer can purchase the quality of book.

Book recommendation
Teachers will suggest books based on specific university, topics, etc. It will visible under student login and analytics at marketplace.

Teachers module
Teachers will approved himself by the id card, can seen the list of books and also purchases the book from the marketplace, submit the answers of the questionnaire will helps the system to show the analysis.

Student Module
Teachers can access the list of books and also use the book marketplace to purchases the books. With the help of questionnaire teachers can recommend the books to the buyers/Students.

AYUSH
Ministry of AYUSH have access to NCISM functionality.

Methodology

| #	
1	The author/publisher sends 5 hard copies of the book to the NCISM for review.
2	As per the domain of the book, NCISM will allot the reviewer.
3	Reviewers have two choices: either accept the book or reject the book to review.
4	If the reviewer accepts the book then the reviewer performs the assessment on the book and sends the score to NCISM and as well as to the author/publisher.
5	The reviewer will send a final report of a book to NCISM and the NCISM committee will make the final decision whether to approve or reject the book.
6	All approved books are available on the book marketplace.
7	Students can purchase the books and submit their feedback on the books.
8	Teachers can buy the books, give feedback, and recommend the books to the students.

Process Flow of System
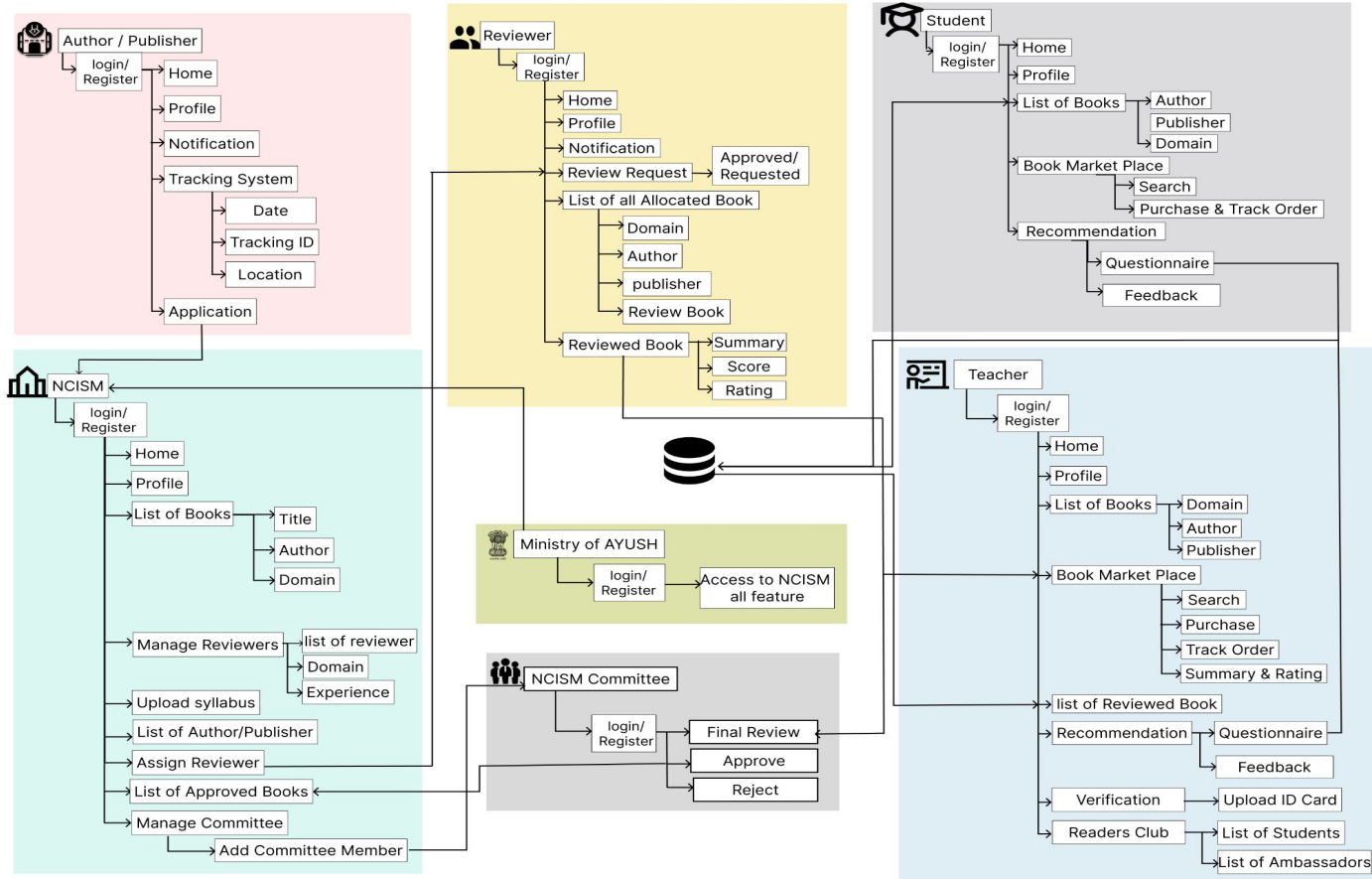
Reviewer Credibility

Parameters for Reviewer

- Medical Expertise
- Specialization
- Teaching Experience
- Publication Record
- Research Experience
- Board Certifications
- Reviewer Bais
- Availability and Timelines
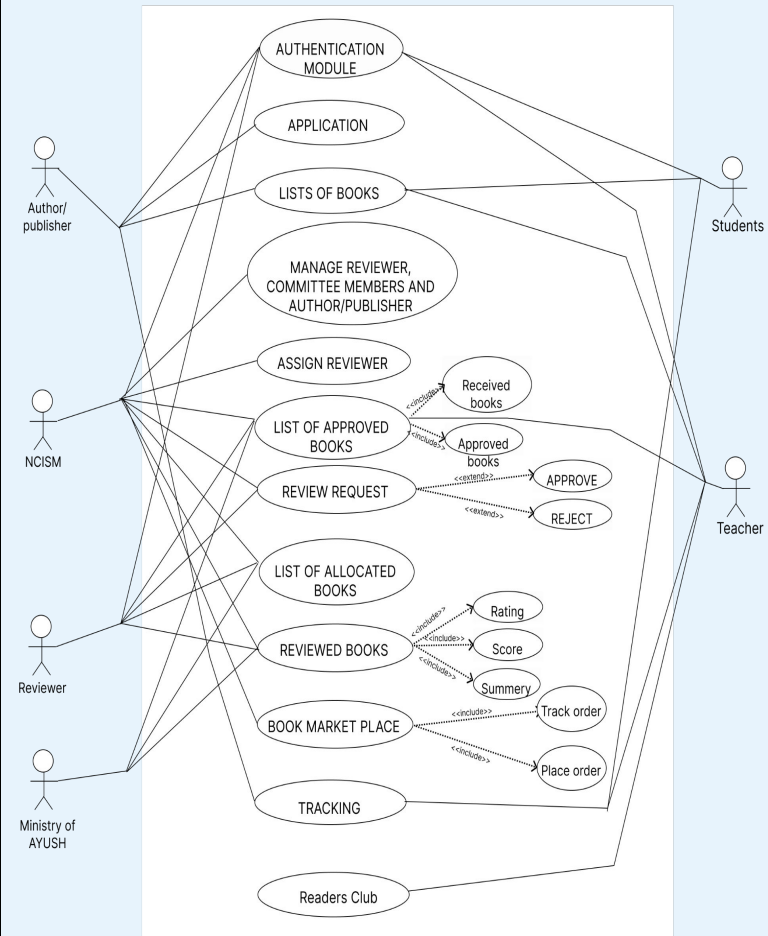- Allignment with Educational Goals

Dependency

Internet Connectivity
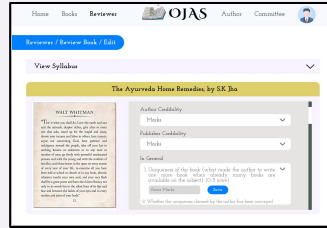
API Used:
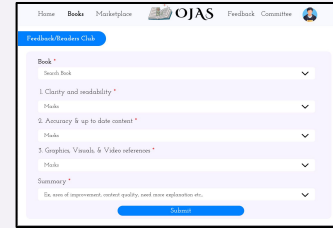MonkeyLearn - Text Classifiers

Technology Stack

Author / Publisher
- login/Register
- Home
- Profile
- Notification
- Tracking System
  - Date
  - Tracking ID
  - Location
- Application

NCISM
- login/Register
- Home
- Profile
- List of Books
  - Title
  - Author
  - Domain
- Manage Reviewers
  - list of reviewer
  - Domain
  - Experience
- Upload syllabus
- List of Author/Publisher
- Assign Reviewer
- List of Approved Books
- Manage Committee
  - Add Committee Member

Reviewer
- login/Register
- Home
- Profile
- Notification
- Review Request → Approved/Requested
- List of all Allocated Book
  - Domain
  - Author
  - publisher
  - Review Book
- Reviewed Book
  - Summary
  - Score
  - Rating

Ministry of AYUSH
- login/Register → Access to NCISM all feature

NCISM Committee
- login/Register → Final Review
- Approve
- Reject

Student
- login/Register
- Home
- Profile
- List of Books
  - Author
  - Publisher
  - Domain
- Book Market Place
  - Search
  - Purchase & Track Order
- Recommendation
  - Questionnaire
  - Feedback

Teacher
- login/Register
- Home
- Profile
- List of Books
  - Domain
  - Author
  - Publisher
- Book Market Place
  - Search
  - Purchase
  - Track Order
  - Summary & Rating
- list of Reviewed Book
- Recommendation → Questionnaire
  - Feedback
- Verification → Upload ID Card
- Readers Club
  - List of Students
  - List of Ambassadors

Use-Case Diagram

Actors: Author/publisher, NCISM, Reviewer, Ministry of AYUSH, Students, Teacher

Use cases: AUTHENTICATION MODULE, APPLICATION, LISTS OF BOOKS, MANAGE REVIEWER, COMMITTEE MEMBERS AND AUTHOR/PUBLISHER, ASSIGN REVIEWER, LIST OF APPROVED BOOKS, Received books, Approved books, REVIEW REQUEST, APPROVE, REJECT, LIST OF ALLOCATED BOOKS, REVIEWED BOOKS, Rating, Score, Summery, BOOK MARKET PLACE, Track order, Place order, TRACKING, Readers Club

Relations: <<include>>, <<extend>>

Snapshots

List of Reviewer
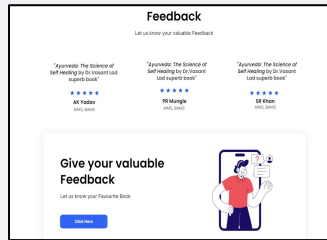

Reviewer - Enter Marks
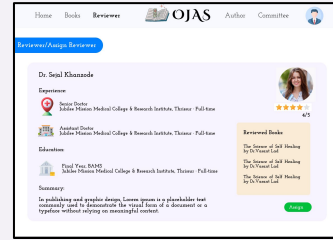

Book Purchase & Analytics
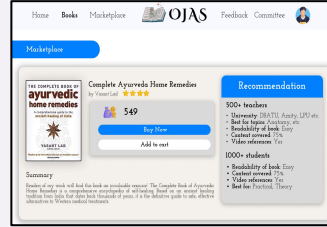
Readers Club - Feedback
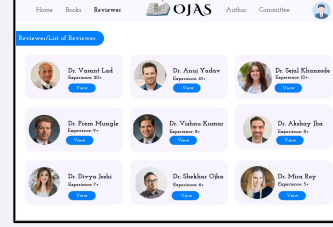
Feedback

NCISM (Assign a Reviewer)

Conclusion:

- Providing a Quality textbook/reference book to students.
- Review books online using our system.
- Recommend best books to student by Teachers.
- World wide feedback from all students and teachers.

Team Details

Team Leader Name: Prem Mungle
Branch: B.Tech
Stream: Computer Engineering
Year: IV

Team Member 1 Name: Anujkumar Yadav
Branch: B.Tech
Stream: Computer Engineering
Year: IV

Team Member 2 Name: Sejal Khanzode
Branch: B.Tech
Stream: Computer Engineering
Year: IV

Team Member 3 Name: Vaishanvi Kolhe
Branch: B.Tech
Stream: Computer Engineering
Year: III

Team Member 4 Name: Akanksha Rai
Branch: B.Tech
Stream: Computer Engineering
Year: III

Team Member 5 Name: Gayatri Jadhav
Branch: B.Tech
Stream: Computer Engineering
Year: II

Team Mentor 1 Name: Mr. Aitesham Kazi
Category: Academic
Expertise: Big Data
Domain Experience (in years): 7 Years

Team Mentor 2 Name: Mr. Amol Jumde
Category: Academic
Expertise: Machine Learning
Domain Experience (in years): 4 Years