Research Paper Management System
IRD Website Development

INDRAPRASTHA INSTITUTE *of* INFORMATION TECHNOLOGY DELHI

Indraprastha Institute of Information Technology, New Delhi

AFFILIATIONS

BTP Track: Engineering
BTP Advisor: Dr. Puspendra Singh
psingh@iiitd.ac.in

DEVELOPERS

Pourav Surya ***Suyash Kumar*** ***Vickey Kumar***

Abstract

Our project delivers a specialized platform for optimizing research paper management within the IRD department. It supports streamlined creation, editing, deletion, and management of papers, facilitating easy access to essential details such as authorship and publication data. This enhances efficiency and simplifies research tracking at IIIT Delhi.

Problems

- **Data Fragmentation:** Research data scattered across platforms, posing access and management challenges.
- **Inconsistent Access Controls:** Lack of unified system for user permissions, raising security risks.
- **Limited Search Functionality:** Cumbersome and inefficient search for specific papers or authors.
- **Manual Data Management:** Time-consuming manual processes for updating, adding, or deleting information, prone to errors.
- **Lack of Transparency:** Users lacked access to peers' research projects and publications, hindering knowledge sharing and collaboration.
- **Inefficient Paper Management:** Users struggled with organizing, updating, and revising research papers, leading to confusion and duplicated efforts.

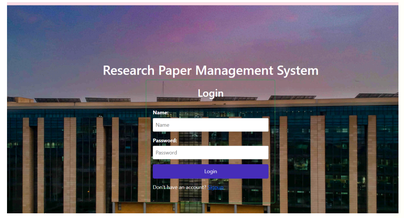
Stack Overview

- On the client side, we utilize a combination of HTML, CSS, Bootstrap, JavaScript, and EJS (Embedded JavaScript) to create dynamic and visually appealing interfaces.
- HTML provides the structural foundation of our web pages, enhanced by CSS and Bootstrap for styling and layout, ensuring a consistent appearance across different devices and screen sizes.
- JavaScript adds interactivity, enabling dynamic content updates and enhancing user engagement. EJS assists in server-side templating, facilitating the dynamic generation of HTML content.

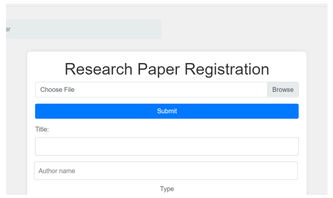
Workflow & Website Development

Authentication

- The platform employs MongoDB for efficient user authentication.
- Users input secure username and password during login.
- Credentials are verified against stored data in the database.
- Access is granted upon successful matches, prompting re-entry for incorrect entries.
- This ensures only authorized individuals access system resources.



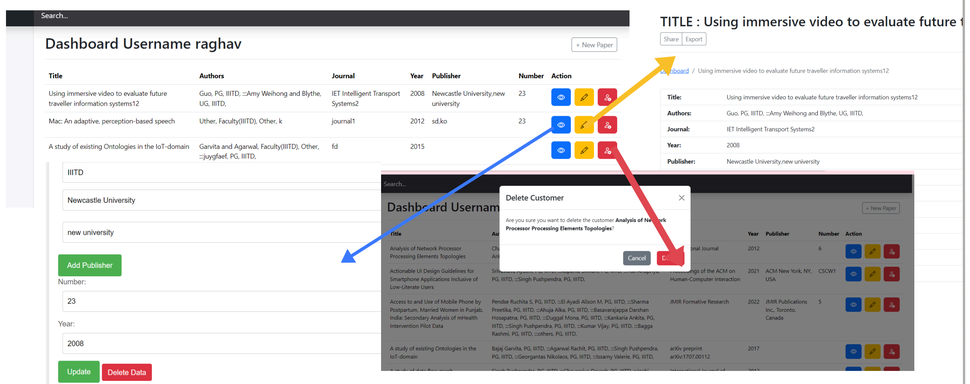
Add New Entries



- Users can add research papers through two methods: manual entry or bulk upload via citation files.
- Manual entry entails directly inputting paper details into the system.
- Bulk uploads involve submitting citation files adhering to a specified format for consistency and accuracy.
- When a citation file is uploaded, the system parses and displays the data for user review and editing.
- This process is managed by executing main.py, which reads, parses, and converts file contents into JSON format.
- The parsed data is then stored in MongoDB, ensuring precise data handling and storage.

View the data in tables and edit or delete info

- Research data is presented in dynamic tables accessed through MongoDB queries.
- Users can view, edit, and delete entries via a form-based interface.
- Data integrity and author attribution are maintained using MongoDB's "Put" query.
- This structured interaction enhances user experience and system reliability.



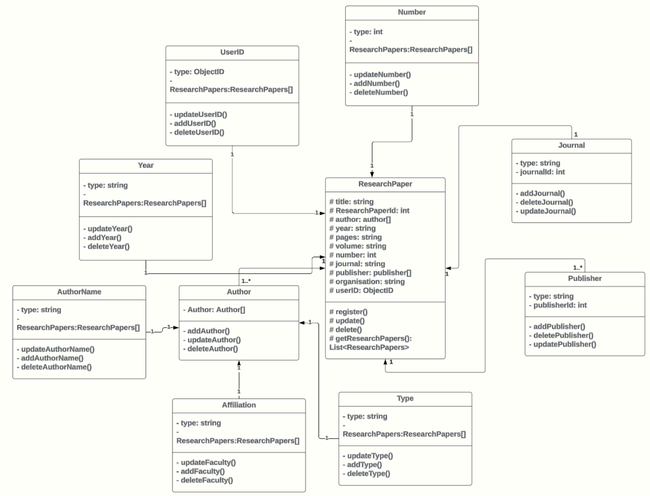


Figure : Model schema for Research Paper Management

Architecture

- **Client-Side: HTML, CSS, Bootstrap, JavaScript, EJS (Embedded JavaScript)**
- **Server-Side (Web Server): Python, Node.js with modules**
- **Database: MongoDB**

Future Plans

- Deployment Strategy : Staged Deployment: Plan for a phased rollout, initially deploying a beta version to a selected user base to gather feedback and perform live environment testing.
- Upgradation and Maintenance : We plan to work with Kapil Dev Sir (IRD Manager) on the upgradation and maintenance of other websites - One IRD and Claps, enhancing their functionality and ensuring they meet contemporary academic and technological standards.
- User Interface and Usability Enhancements : Notifications System Overhaul: Completely redesign the notifications system to ensure functionality and user-friendliness.
- Security Enhancements: Advanced Firewall Implementation: Integrate IPTables or NFTables for robust server protection against various network-based DOS attacks.

vickey21299@iiitd.ac.in **suyash21293@iiitd.ac.in** **pourav21071@iiitd.ac.in**