INDIACOM WEBSITE

(A Conference Management System)

A DISSERTATION

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE AWARD OF THE DEGREE

OF

MASTER OF COMPUTER APPLICATIONS

(MCA)

BY

SANCHIT TALREJA

(Enroll. No.: 35211604422)

BHARATI VIDYAPEETH'S INSTITUTE OF COMPUTER APPLICATIONS & MANAGEMENT (BVICAM)

(GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY)

NEW DELHI

2024

CANDIDATE'S DECLARATION

I, hereby, declare that the work which is being presented in this dissertation, entitled "**INDIACOM CONFERENCE WEBSITE**" for partial fulfilment of the requirements for the award of the degree of **Master in Computer Applications (MCA),** at **Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi,** is an authentic record of my own work carried out during the period January 2024 to 2024 under the supervision and guidance of Dr. Saumya Bansal (Assistant Professor, BVICAM).

I have not submitted the matter embodied in this dissertation anywhere for the award of any degree or diploma.

SANCHIT TALREJA

Enroll. No. 35211604422

ACKNOWLEDGEMENT

It is my proud privilege to express my profound gratitude to the entire management and staff members of Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi, for providing me with the opportunity to avail the excellent academic facilities and infrastructure. The knowledge and values inculcated have proved to be of immense help at the very start of my career. Special thanks to Hon'ble Founder, Bharati Vidyapeeth, Pune for having provided us an excellent infrastructure at BVICAM, New Delhi. I am also thankful to Prof. M. N. Hoda (Director, BVICAM) for his astute guidance, support and motivation during the academic period of MCA programme.

I would like to thank my dissertation guide Dr. Saumya Bansal (Assistant Professor, BVICAM) for her valuable support. She took interest in observing my progress throughout the training/internship span and studied all the monthly update I report to him. She came up with regular suggestion and encouragement.

I would like to pay my sincere gratitude to Ms. Ambooj (Assistant Professor, BVICAM) for providing an opportunity to work on project, under her guidance at BVICAM.

I would like to thank Training and Placement Cell of BVICAM for providing me with an opportunity to pursue my internship.

I am expressly grateful to all those names that have not appeared in this acknowledgement but have contributed in significant measure towards the completion of the dissertation.

SANCHIT TALREJA

Enroll. No. 35211604422

INSTITUTE CERTIFICATE

ABSTRACT

This project details the redevelopment of IndiaCom, a website aimed at a conference management system. The original site suffered from usability issues including a cumbersome login system, a clunky review process, and an outdated user interface (UI). This project addresses these shortcomings through a comprehensive redesign.

A new, user-friendly UI streamlines the user experience. The WordPress platform empowers content management for the website without coding expertise. Additionally, a revamped review system featuring manageable research papers and user systems enhances reviewer workflow by allowing in-platform paper review by eliminating the need for downloads.

These improvements collectively enhance the user experience for website visitors and reviewers, establishing India.com as a more effective platform for conference management.

There are mainly 4 modules of the system: user registration, creating a new research paper, updating the research paper, and managing users and the research paper. All the modules are tested by following unit, integration, and load testing mechanisms and found correct in all respects. After successful testing, the system is ready to be shifted in phase 2 and to make this full system we still need more time and manpower.

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

Abbreviation	Description
H/W	Hardware
S/W	Software
MB	Megabyte
GB	Gigabyte
RAM	Random Access Memory
HTTP	Hypertext Transfer Protocol
URL	Uniform Resource Locator
UI	User Interface
DFD	Data Flow Diagram
ASP	Active Server Pages
DFD	Data Flow Diagram
MCA	Master in Computer Applications
WP	WordPress
RP	Research Paper

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

1.1 Problem Statement

1.2 Proposed Solution

1.3 Deliverables

1. Introduction

IndiaCom, a website catering to researcher's conference management, underwent a thorough review to identify areas for improvement. This project prioritizes user experience (UX) and aims to establish IndiaCom as a more efficient and user-friendly platform.

User testing revealed several shortcomings hindering user experience. Login issues suggest the need for enhanced testing and debugging procedures. Furthermore, the website's data schema suffers from poor design, leading to inefficiencies and data management challenges. Updating the website is reportedly a time-consuming process further hampered by the lack of a support community for the legacy programming language.

Beyond functionality, both the admin dashboard and the user interface were flagged for user-unfriendliness and outdated aesthetics. These issues likely discourage user engagement and hinder overall website effectiveness.

This project addresses the identified issues through a comprehensive redesign built on a user-centered approach. By prioritizing ease of use and clear navigation, we aim to create a more intuitive experience for both website visitors and reviewers.

The following sections will detail the specific solutions implemented:

A Streamlined User Interface: A modern and user-friendly UI will be implemented, emphasizing clarity and ease of navigation.

Empowering Content Management: We will migrate IndiaCom to the WordPress platform, enabling content updates without requiring coding expertise.

Enhancing the Review Process: A revamped review system will be introduced, featuring manageable research paper and user systems. This will allow reviewers to seamlessly access and review papers directly within the platform, eliminating the need for downloads.

Data Management Made Easy: A well-designed data schema will be implemented, streamlining data organization and facilitating efficient management by using limited table structures.

By addressing these areas, this project aims to transform IndiaCom into a more efficient, user-friendly, and visually appealing platform, ultimately serving its intended purpose more effectively.

1.1 Problem Statement

Our review of the current website has identified several areas that require improvement. A recurring issue reported by faculty is encountering problems upon login, which suggests deficiencies in the website's testing and debugging procedures. Furthermore, the current database schema suffers from poor design, leading to inefficiencies and presenting challenges in data management. Updating the website takes a lot of time, and fixing code problems is even harder because the old programming language we use doesn't have much community support. Finally, the user interface and admin dashboard require modernization, as they currently lack user-friendliness and visual appeal.

1.2 Proposed Solution

To improve the user experience and streamline administrative tasks, we propose a new online review system. This system would eliminate the need for faculty to download papers for review, saving them valuable time and effort. Additionally, the system would be designed with a visually appealing interface to enhance user satisfaction. Furthermore, a well-structured and easy-to-understand database like My SQL that contains single table instead of multiple ones would be implemented to facilitate efficient data management. Finally, the system would be built on a platform like WordPress, which utilizes a user-friendly admin module, allowing for straightforward maintenance and updates.

The main objectives of the work are:

- Provide a new review system so reviewers don’t have to download papers to review them.
- Make it visually appealing.
- Providing a simple database instead of a complex one by using limited table structures.

- Provide an admin module by WordPress so it can be maintained and updated easily.

1.3 Deliverables

The list of deliverables is provided in Table 1.1.

Table 1.1: List of deliverables

S. No.	Phase	Deliverables	Page No.
1.	Requirement Analysis	Use Case	52
2.	Design	Entity Relationship Diagram	26
3.	Design	Use case Diagram	53
4.	Design	Data Flow Diagrams	54
5.	Design	Interaction Diagram	55
6.	Design	Flowchart	57
7.	Unit Testing	Test Results	42

CHAPTER 2

PROJECT DESCRIPTION

2.1 System Interfaces

2.2 System Specifications

2.2.1 H/W Requirement

2.2.2 S/W Requirement

2.3 Methodology and Tools used

2.3.1 Requirement Phase

2.3.2 Design Phase

2.3.3 Development Phase

2.3.4 Implementation Phase

2.3.5 Testing Phase

2.4 Constraints

2.5 Assumptions & Dependencies

2.6 User Characteristics

2. Project Description

2.1 System Interfaces

The overall System has the following Interfaces:

- **Login Page:**
    - This interface allows users to log in to the system.
    - Provides Form-based authentication.
    - Performs the authentication and authorization process.
- **Home Page:**
    - This is the landing page after the user is logged in
    - This page will be accessible to both researchers and admin users.
    - This section displays all the tabs like Contact Us, Submit Paper, My Account etc.
- **Submit Paper Page:**
    - This page is reached in case the Admin/User clicks on the submit paper link.
    - This section allows the researchers to generate the new paper
    - This is the initial step for the creation of a new paper ID.
- **Update paper Page:**
    - This page is reached in case the Admin/User clicks on the update paper link.
    - After the order is created, it is displayed in pending orders where all the details can be viewed unless the payment is made.

- **Get Membership Page:**
    - This page is reached in case the Admin/user clicks on the get membership Tab.
    - This page allows the person to create a new user and will be gone for approval to the admin side.
- **My Account Page:**
    - This page is reached in case Users/Admin click on my account Tab.
    - This page gives us information about the user and also has features like password change etc.
- **Add Co-Authors Page:**
    - This page is reached when the Admin /user clicks on the update co-authors link.
    - This page helps in adding co-authors in the specific row of paper IDs submitted by the researcher.
- **Users page:**
    - This page is reached when the Reviewer/Admin clicks on the Indiacom logo and after that user's tab.
    - Admin can manage users and approve or deny from here and also edit the values of the users if they want to.
    - This is a wp_users dashboard pushed to the front end.
- **Research Paper Page:**
    - This page is reached in case the Reviewer/Admin clicks on the Indiacom logo and after that research paper tab.

- Admin can manage all the research papers & can edit them according to anything they want but there is no delete functionality.

- **Wp-admin Page:**
    - This page is reached when the Admin writes wp-admin after the website in url.
    - This page can handle full website features, pages, posts, plugins etc.

2.2 System Specification

2.2.1 H/W Requirements

- **Architecture:**
    - 64 bit hardware architecture
    - Intelprocessor with compatible Motherboards
- **Processing Power**
    - i3 4th gen 2.4-gigahertz (GHz) processor or faster
- **Memory**
    - 4 GB of RAM (8 GB is recommended)
- **Secondary Storage**
    - 50 GB of available space on the hard disk

2.2.2 S/W Requirements

- **Platform:**
    - Web Browser compatible with 1024 x 768 or better resolution

- **Services**
    - WordPress:Version 6.5.2
    - WP_Plugins: Elementor (basic,pro,essential addons,Ea-pro) , insert php code snippet, user registration,user role editor ,wp data access, wp frontend admin, disable gutenberg
    - Server: Apache (using mamp)
    - Languages: PHP 8.3.4, HTML, CSS
    - Database: My SQL 5.2.0
- **Web Browser**
    - Browser compatible to request active server pages over HTTP.

2.3 Methodology and Tools Used

The concerned project uses the agile methodology of iterative development where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.

Agile web development is a model for the development of web applications. It is more efficient and powerful within a shorter timeline than other models incorporates face-to-face communication, and includes technical personnel as well as customers as part of the team. Agile web development uses project managers, and business analysts, emphasizing clear goals, planning, and iterative delivery. Agile web development ensures the successful completion of the product at the end of the iteration.

2.3.1 Requirement Phase

The requirement phase guided the development team through designing a prototype and setting goals.

The discovery phase included these steps:

- Built the employee wish list
- Performed interviews, group discussions, brainstorming sessions
- Identified the project team
- Established the development environment
- Identify client requirements
- Set the project scope and schedule

Requirements of the System:

- All users must log in with their username and password.
- Role Based Security Needed: Admin and User
- Administrator manages users, website, research papers and traffic.
- User can view and manage his Profile on the application.
- Validate the information entered by the user on web pages.
- Role-based security should be there. A researcher should not be able to edit the information of other researchers.
- System should save the state of the application persistently by monitoring database transactions having multiple queries.

Thus, the first deliverable functionality will be divided into the following 3 parts:

- **Authentication and Authorization**: This includes login functionality which includes that there should be some security provided on the way users log in so that only Admin has access to the administration page where users, posts, and issues can be modified, added or deleted.

- **Administration Functionality**: This includes a functionality where admins can administer the software and is able to modify the records.

- **Researcher's Functionality:** This includes functionality where researchers can view, upload, update or add co-authors to the paper.

2.3.2 Design Phase

The design phase is a vital turning point in a project where abstract ideas solidify into concrete plans. It starts by taking the requirements and goals identified earlier and translating them into technical specifications and blueprints. This might involve creating mockups, user flows, or outlining functionalities. The entire process is crucial because it ensures everyone involved is on the same page and minimizes the risk of errors or rework later in the project. By meticulously crafting a detailed design, you create a roadmap that guides the development process towards a successful outcome.

2.3.3 Development Phase

The System was developed by following 3-tier architecture with bottom up strategy defined as follows:

- **Data Access Layer**: A data context has been defined for this layer to manage connections to the database tables, providing easy access. A framework has been created at this layer to define a database context class that manages the flow of information in and out of this layer.

- **Business Logic Layer**: This layer serves as a bridge between the interface layer and the data access layer, housing all business and modification logic.

- **Presentation Layer**: This layer defines the generic interface through which the user interacts. It contains classes that define functions for presenting data retrieved from the Business Access Layer to the user in the required formats.

The tools which were used are as follows:

- **Microsoft Visual Studio Code**

  It is an integrated development environment (IDE) from Microsoft.

- **MY SQL from my PHP admin for Database Management**

phpMyAdmin is a free and open-source administration tool for MySQL and MariaDB. As a portable web application written primarily in PHP

2.3.4 Implementation Phase

The project was brought to life on a local development environment using MAMP. This software package provided a simulated server environment, allowing for testing and development without affecting the live website. Within MAMP, a MySQL database was created and managed using phpMyAdmin. This database serves as the central storage for website content. WordPress, a popular content management system (CMS), was then installed. WordPress empowers non-technical users to easily manage website content through a user-friendly interface. However, for functionalities not natively offered by WordPress, custom code forms were created using HTML, CSS, and PHP. This approach allowed for the development of bespoke features tailored to the specific needs of the project. By integrating these custom forms seamlessly within the WordPress framework, we ensured a user-friendly content management experience while extending the website's capabilities.

2.3.5 Testing Phase

Bottom up testing was performed on deliverable of the project starting from Data Access Layer.

- **Unit Testing**

  - **Submit Paper Form:** Ensure all essential fields are required and have informative error messages for missing information.

- **Update Paper Form:** Validate file uploads, check for file size limits, and confirm correct storage of uploaded files.
- **Add Co-Authors Form:** Test user search functionality for accuracy and selecting/adding co-authors with limitations (if applicable).
- **Login System:** Verify username/password validation, error messages for invalid credentials, and successful session creation with redirection to the appropriate dashboard.

- **Integration Testing**
    - Integration testing within the deliverable involved integrating all the layers and checking the secure flow of Information under the defined roles.
    - Integrity checks were tested on the Data Passed to the Data Access Layer from the User Interface Layer.

2.4 Constraints

- Display of content varies from Browser to Browser it is recommended to use Google Chrome or similar browsers to view the site perfectly.
- It is recommended that your internet speed should be more than 850kbps to load the website faster.
- It is recommended to use the website after login to access all the features of the user.
- Data should be posted in the research paper tab so that there is no mismatch left.
- The testing process is carried out on a limited number of hosts.

2.5 Assumptions and Dependencies

We assume that the client will make available the required software and access permissions for all the environments required for the purpose of project execution.

The client will provide all documents that are relevant to the application and are within the scope of the project. These documents include but are not limited to the following:

- Requirement documents.
- Screen Mock-ups and working Prototypes (wherever available) approved by business users.
- Use Case.
- Design and Architecture document and list of batches/interfaces.
- All design documents for all components.
- The client would provide Test data for testing purposes.

Dependencies will be as follows:

- Design Specifications sign-off.
- Research paper data should be posted in the research paper tab for the processing of further rounds and payments if selected.
- The client's resources should be available for any query/clarification.

2.6 User Characteristics

Under Role Based Security three types of Users have been defined: The Admin user the researcher user and the Reviewer.

The researcher has the following rights in the application –

- Login to the system using their “User Name” and “Password”.
- Upload or generate a new research paper
- View submitted research papers
- Update the research paper generated already by the current user
- Add co-authors who helped in making the research paper

The Reviewer has the following rights in the application –

- Login to the system using their “User Name” and “Password”.
- Can access the admin dashboard which contains the modules like managing users or research paper
- Can’t access all the features like admin have main wp-admin dashboard is not accessible

Admin Users have all rights throughout the application. They have the following additional rights in the application along with employee rights:-

- Login to the system using their admin “User Name” and “Password”.
- Grant access to modules to the users according to their job assigned.
- Has full access to the database and all the rights any of the Reviewers and researchers have.
- Can access the wp-admin dashboard also.

CHAPTER 3

FUNCTIONALITY

3.1 Logical Database Design

3.1.1 ERD

3.1.1Table Structures

3.2 Input and Output Design

3.3 Use case Description

3. FUNCTIONALITY

3.1 Local Database Design

This ER diagram represents the database schema for an "Indiacom Conference Website." It includes four main tables: research_paper, wp_xyz_ips_short_code, wp_users, and wp_usermeta. Here's a breakdown of each part:

1. research_paper

Primary Key (ID): The unique identifier for each research paper.

Attributes:

SESSION: The session in which the paper is presented.

TITLE: The title of the research paper.

EMAIL: Contact email of the author.

MID: An identifier related to the author or paper.

NAME: Name of the author.

CONTACT AUTHOR ID: Identifier for the contact author.

DATE OF LAST UPDATE: The date when the paper was last updated.

EVENT ID: Identifier for the event.

STATUS: Current status of the paper.

PLAG PATH: Path to the plagiarism report.

TRACK ID: Identifier for the track.

DATE OF SUBMISSION: The date when the paper was submitted.

DOCUMENT PATH: Path to the document.

PRESENTATION PATH: Path to the presentation.

2. WP_XYZ_IPS_SHORT_CODE

Attributes:

ID (PK): The unique identifier for each short code entry.

TITLE: Title of the short code.

CONTENT: Content associated with the short code.

SHORT_CODE: The actual short code.

STATUS: Status of the short code.

Relation to research_paper: Indicates that short codes are fetched for display purposes related to research papers.

3. wp_users

Primary Key (ID): The unique identifier for each user.

Attributes:

USER_URL: URL associated with the user.

USER_EMAIL: Email of the user.

USER_ACTIVATION_KEY: Activation key for the user.

USER_STATUS: Status of the user.

USER_LOGIN: Username for login.

USER_PASS: Password for login.

USER_NICENAME: Nicename of the user.

USER_REGISTERED: Registration date of the user.

DISPLAY NAME: Display name of the user.

4. wp_usermeta

Primary Key (UMETA_ID): The unique identifier for each user meta entry.

Attributes:

USER ID: The user ID this meta data is associated with.

META_KEY: Key for the meta data.

META_VALUE: Value for the meta data.

Relation to wp_users: Stores additional metadata for users.

3.1.1 Entity Relation Diagram (ERD)

The ER diagram of the developed system is shown in Figure 3.1

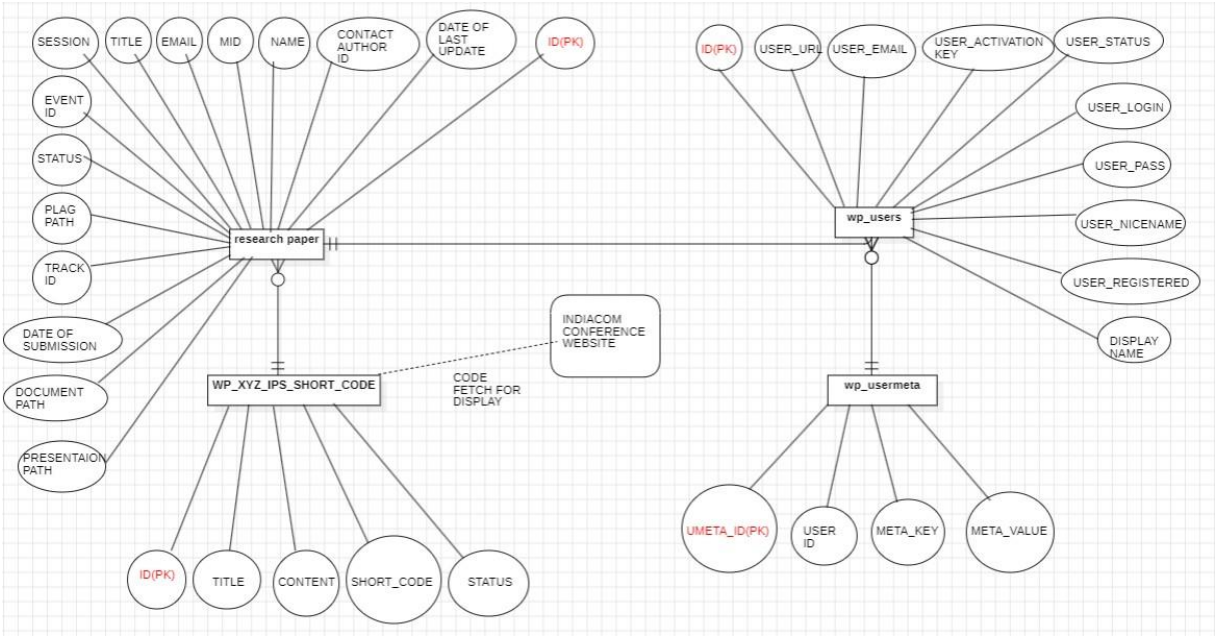


Figure 3.1 E-R Diagram of System

3.1.2 Table Structures

The structure of various database tables designed for the "INDIACOM Conference Website" is described in Tables 3.1 to 3.4.

Table 3.1: Structure of research paper Database table

S. No.	Name of Column	Data Type	Description
1.	paper_id	Int(11)	Primary Key, Auto Increment
2.	name	varchar(255)	Name of the user
3.	mid	int(11)	login id of the user
4.	email	varchar(255)	Email ID of the user
5.	title	varchar(255)	Title of research paper
6.	date_of_submission	varchar(220)	Submission date of research paper
7.	date_of_last_update	varchar(220)	Update date of research paper
8.	event_id	Varchar(255)	Event details
9.	track_id	varchar(255)	Who is going to check
10.	session	varchar(50)	Session details
11.	document_path	varchar(255)	Research paper store path
12.	plag_path	varchar(255)	Plagiarism store path
13.	presentation_path	varchar(255)	Presentation store path.
14.	contact_author_id	varchar(210)	Co-author id details
15.	status	enum	Status of the paper

Table 3.2: Structure of wp_users Database table

S. No.	Name of Column	Data Type	Description
1.	ID	Bigint(20)	Primary Key, Auto Increment
2.	User_login	Varchar(60)	username
3.	User_pass	Varchar(255)	User Password

S. No.	Name of Column	Data Type	Description
4.	User_nicename	Varchar(50)	short name
5.	User_email	Varchar(100)	email
6.	User_url	Varchar(100)	Access URL
7.	User_registered	DateTime	Time of user made
8.	User_activation_key	Varchar(255)	Activation key
9.	User_status	Int(11)	Status of user
10.	Display_name	Varchar(250)	Name to be displayed

Table 3.3: Structure of wp_xyz_ips_short_code Database table

S. No.	Name of Column	Data Type	Description
1.	Id	Int(11)	Primary Key, Auto Increment
2.	Title	varchar(1000)	Title of code
3.	Content	Longtext	Actual code
4.	Short_code	Varchar(2000)	Shortcode
5.	Status	Int(11)	Active or paused

Table 3.4: Structure of wp_usermeta Database table

S. No.	Name of Column	Data Type	Description
1.	umeta_id	Bigint(20)	Primary Key, Auto Increment
2.	User_id	bigint(20)	Secondary key, user ID
3.	Meta_key	varchar(255)	Secondary key, user ID
4.	Meta_value	longtext	Values are stored here in +1 format

3.2 Input Output Design

The Input-Output Design of various Screens designed for the "INDIACOM conference website" is described in Tables 3.7 to 3.13.

Table 3.7: Input-Output Design of Login Screen

Purpose	• Enables user, Reviewer or Administrator to log into the System
Description of field(s)	• User Name: The user enters his/her login name to log into the System. • Password: User enters Password. • Login Button: Logs the user in or displays an error on the mismatch of username and password.
Validation Checks	• The username should be a registered User Name. • Password should match the entered username in the database.

Table 3.8: Input-Output Design of Registration (Get Membership) Screen

Purpose	• This form helps in signing up as a user
Description of field(s)	• Salutation: The user will choose what he is actually a doctor, Mr, Mrs, miss, professor • User email: here the user will type the email address that is currently he is using. • First name: here user will write his first name • Last name: hare user will write his last name • Username: here user will choose his username if the username is already taken then it will show the error • User password: here the user will enter is user password which will need to be strong enough so the website will accept it. • Confirm password: here user will write the password again if the password does not match the user password then this field will show the error.

	• Address: here user will type his address • Country: The user will select his country • Pin code: here user will type his pin code • State: here the user will type the state he lives in. • Mobile number: here user we will type is phone number • User bio: here user will type his bio. • Interested event: your user will select the events is interested in. • CSI membership number: here user will type a CSI membership number if any • IEEE membership no.: here user will type his IEEE membership number if any • Organisation name: here user will type the organisation name he belongs to. • Category: here the user will choose the category if he is a research scholar, full-time student, faculty or industry representative
Validation Checks	• Same username is not allowed • Same email address is not allowed • Password should be strong • All fields are mandatory with an asterisk symbol.

Table 3.9: Input-Output Design of submit paper Screen

Purpose	• Enables researchers to submit a new paper.
Description of field(s)	• Event: This field is used to select the event for which the paper is being uploaded. • Track: This field is used to select the track for which the paper will be on which track. • Session: This field is used to select the session for which the paper is uploaded. • Title: this field will be filled with the title of the paper. • Upload paper: this field is used to upload the paper.

	• Upload plagiarism: this field is used to upload plagiarism reports. • Terms and conditions: This field is used to get acceptance for the terms and conditions.
Validation Checks	• All fields are mandatory with an asterisk symbol. • Upload paper should be in pdf format. • Plagiarism report should be in pdf format.

Table 3.10: Input-Output Design of Update Paper Screen

Purpose	• Enables to update the existing paper of the current user.
Description of field(s)	• Select the paper ID first in which updates are to be made. • Upload revised paper. • Upload plagiarism report. • Upload the presentation.
Validation Checks	• Mandatory fields need to be filled. • Revised paper should be in pdf or Word format • Plagiarism report should be in pdf format • Presentation should be in pptx or ppt format.

Table 3.11: Input-Output Design of add co-authors Screen

Purpose	• Enables researchers to add co-authors to the submitted paper.
Description of field(s)	• Select the paper ID first in which updates are to be made. • Select the co-authors whom you worked with. • Selected co-authors will be shown here before submission.
Validation Checks	• Mandatory fields need to be filled.

Table 3.12: Input-Output Design of Manage Research Paper Screen

Purpose	• Used to manage all the research papers.
Description of field(s)	• Helps in downloading the paper. • Helps in updating the paper if necessary. • Helps in updating the status of the paper.
Validation Checks	• Nothing is mandatory.

Table 3.13: Input-Output Design of Manage Users Screen

Purpose	• Used to manage all the researchers.
Description of field(s)	• Helps in approving the researchers. • Helps in editing the researcher's profile.
Validation Checks	• Nothing is mandatory.

3.2 Use Case Description

The Use Case Description for “INDIACOM CONFERENCE WEBSITE” is described in Tables 3.16 to 3.21.

Table 3.16: Use Case Description of Login Process

Purpose	• This use case defines the registration and Login process of the Administration and General user.
Actors	• Reviewer • Admin • Researcher
Preconditions	• User should be registered in case of login, retrieve Password, change password. • In case of Admin Login the User should be registered under Admin Role.

Post Conditions	• Home pages are displayed depending on the successful login not depending on the role of the user.
Basic Flow	• On Failure Error Message is displayed. • The system requests the actor to enter his/her username and Password. The role can be any one of the admin and the User. • The actor enters his/her username and password. • The system validates the entered name and password and Logs in the actor into the system.
Alternate Flows	• User is shown an error message with an invalid username or Password.

Table 3.17: Use Case Description of Submit Paper Process

Purpose	• Enables researchers to submit the new paper.
Actors	• Reviewer • Admin • Researcher
Preconditions	• User should be logged into the system. • All the mandatory fields need to be filled
Post Conditions	• Paper is submitted if all the details are filled.
Basic Flow	• Form to be filled • Actor clicks on ‘submit’ • Success message is shown • The actor can see the uploaded paper results below in the table.
Alternate Flows	• Invalid details are entered and an appropriate error message is displayed.

Table 3.18: Use Case Description of update paper Process

Purpose	• Enables researchers to update the existing paper of the current user.

Actors	• Reviewer • Admin • Researcher
Preconditions	• User should be logged into the system • There should be an existing paper ID of that user
Post Conditions	• All the papers are displayed of that user.
Basic Flow	• The actor selects the paper ID upon which he wants to work. • Updates the paper, plagiarism report and presentation. • Clicks on the update button. • Success message will be shown.
Alternate Flows	• Invalid details are entered and an appropriate error message is displayed.

Table 3.19: Use Case Description of add co-authors Process

Purpose	• Enables to update the co-authors of the existing paper of the current user.
Actors	• Reviewer • Admin • Researcher
Preconditions	• User should be logged into the system. • There should be an existing paper ID of that user
Post Conditions	• All the papers ID are displayed of that user.
Basic Flow	• User selects the paper id. • User selects the co-authors. • Click on submit. • Success message will be shown.
Alternate Flows	• Invalid details are entered and an appropriate error message is displayed.

Table 3.20: Use Case Description of Manage Users Process

Purpose	• Enables actors to manage the website users.
Actors	• Reviewer • Admin
Preconditions	• User should be logged into the system
Post Conditions	• All the users will be shown here.
Basic Flow	• Actor can manage the table of users. • The actor can Edit, approve and view user details.
Alternate Flows	• None

Table 3.21: Use Case Description of Manage Research Papers Process

Purpose	• Enables actors to manage the website research paper.
Actors	• Reviewer • Admin
Preconditions	• User should be logged into the system
Post Conditions	• All the research paper will be shown here.
Basic Flow	• Actor can manage the table of research paper. • The actor can Edit, approve status and view paper details of any researchers.
Alternate Flows	• None

CHAPTER 4

TESTING

4.1 Test Activities

4.2 Unit Testing

4.3 System Testing

4.3.1 Functional Testing

4.4 Test Reports and Debugging

4. Testing

4.1 Testing Activities

Testing is a process rather than a single activity. Testing must be planned, and it requires discipline to act upon it. The quality and effectiveness of software testing are primarily determined by the quality of the test processes used.

The activities of testing can be divided into the following basic steps:

- Planning and Control
- Analysis and Design
- Implementation and Execution
- Evaluating exit criteria and Reporting
- Test Closure activities

Test planning involves producing a document that describes an overall approach and test objectives. It involves reviewing the test basis, identifying the test conditions based on analysis of test items, writing test cases and designing the test environment. Completion or exit criteria must be specified so that we know when testing (at any stage) is complete.

Purpose:

- To determine the scope and risks and identify the objectives of testing.
- To determine the required test resources like people, test environments etc.
- To schedule test analysis and design tasks, test implementation, execution.

Control is the activity of comparing actual progress against the plan, and reporting the status, including deviations from the plan. It involves taking actions necessary to meet the mission and objectives of the project.

Test analysis and Test Design has the following major tasks:

- To review the test basis. The test basis is the information on which test cases are based, such as requirements, design specifications, product risk analysis, architecture and interfaces.
- To identify test conditions.
- To design the tests.
- To design the test environment set-up and identify the required infrastructure and tools.

Test execution involves running the specified test on a computer system either manually or by using an automated test tool. It is a Fundamental Test Process in which actual work is done. Test implementation has the following major task:

- To develop and prioritize test cases by using techniques and create test data for those tests.
- To create test suites from the test cases for efficient test execution.
- Test suite is a collection of test cases that are used to test a software program
- To re-execute the tests that previously failed in order to confirm a fix.
- To log the outcome of the test execution. A test log is the status of the test case (pass/fail).
- To compare actual results with expected result.

Evaluating exit criteria is a process defining when to stop testing. It depends on coverage of code, functionality or risk. Basically, it also depends on business risk, cost and time and vary from project to project. Exit criteria come into picture, when:

- Maximum test cases are executed with certain pass percentage

- Bug rate falls below certain level
- When we achieve the deadlines

Test closure activities are done when software is ready to be delivered. The testing can be closed for the other reasons also like:

- When a project is cancelled
- When some target is achieved
    - When a maintenance release or update is done

4.2 Unit Testing

It is a level of software testing where individual units/ components of software are tested. The purpose is to validate that each unit of the software performs as designed. A unit is the smallest testable part of any software. It usually has one or a few inputs and usually a single output. In procedural programming, a unit may be an individual program, function, procedure, etc. In object-oriented programming, the smallest unit is a method, which may belong to a base/super class.

- **Methodology Used**

  Unit testing was carried out at the developer environment only. Manual testing was done. The developers review their code to check whether their respective units under tests behave as expected.

- **Tools Used**

  No tools were used to do the Testing as manual testing was carried out for Unit Testing of all the modules. As Manual Testing doesn't require any tools, so Tools are not applicable.

4.3 System Testing

System Testing (ST) is a black box testing technique performed to evaluate the complete system, the system's compliance against specified requirements. In System testing, the functionalities of the system are tested from an end-to-end perspective. System Testing is usually carried out by a team that is independent of the development team in order to measure the quality of the system unbiased. It includes both functional and Non-Functional testing.

4.3.1 Functional Testing

- **Methodology Used**

  Under this the whole system was tested under the development team. Basically, all functionalities as per requirements are tested here.

- **Tools Used**

  No tools were used to do the Testing as manual testing was carried out for Functional Testing. As Manual Testing doesn't require any tools, so Tools are not applicable.

- **Test Cases**

Table 4.1: Functional Testing Test Cases

Id	Test Item(s)	Test Case Name	Test Case Description
1.	registration	user successfully created	The person filling form to create new user
2.	Login/logout	Authentication and logout working	Login system working properly
3.	Upload paper	New paper id will be generated	Helps in making a new research paper by uploading them
4.	Update paper	Existing paper can be updated	Only current user submitted paper will be updated
5.	Add co-authors	Can add co-authors in Existing paper	Only current user submitted paper will be able to get those co-authors
6.	Manage users	Full user control	control all the details about the user

Id	Test Item(s)	Test Case Name	Test Case Description
7.	Manage research paper	Full control over research paper table	control all the details about the research paper table
8.	Update research paper admin control	Editing the details of the research paper table	Updating the particular paper id
9.	User approval	Approve the user to make the user account	Approving the user to be the researcher so they can use all the user modules.

4.4 Test Reports and Debugging

Table 4.1: Functional Testing Report

Id	Test Case Description	Test Case Input	Test Results		Status	Corrective Measure
			Expected	Actual		
1.	registering as a user in the get membership page to create mid	All the fields asked in the create new user are filled properly.	user is created successfully	user is created successfully	Pass	None
2.	registering user with the already exsiting email id	All the fields asked in the create new user are filled properly. with alredy exsisting email id	new paper is created successfully	new paper is created successfully	Fail	None
3.	generating a new paper in submitting new paper	All the fields asked in the create new paper are filled	new paper is created successfully	new paper is created successfully	Pass	None

Id	Test Case Description	Test Case Input	Test Results		Status	Corrective Measure
			Expected	Actual		
		properly.				
4.	updating the existing paper of the current user	All the fields asked in the update paper are filled properly.	paper is updated succesfully	paper is updated succesfully	Pass	None
5.	adding all the co-authors of the paper of the current user	All the fields asked in the co-author are filled properly	co-authors added succesfully	co-authors added succesfully	Pass	None
6.	admin can access the admin dashboard as well as wp admin page	login with admin and using admin dashboard	admins can use it	admins can use it	Pass	None
7.	contributers can access the admin dashboard but not the wp admin page	login with contributer and using admin dashbaord and using wp admin page	Succeed in both the panels	success use at admin dashboard but not wp admin	Fail	None
8.	no user can be made without the approval of admin	user approved by admin	user made successfully	user made successfully	Pass	None
9.	user can't update or change the values of reserch	form can't be filled as select box	can't change others paper	can't change others	Pass	None

Id	Test Case Description	Test Case Input	Test Results		Status	Corrective Measure
			Expected	Actual		
	paper of any other user.	is showing only that paper id which is created by that user.		paper		
10.	user display data is only for the display purpose for the users. (can be used to download their uploaded reserch paper,ppt,plagiarism)	no input needed	data displayed and ready to download	data displayed and ready to download	Pass	None

CHAPTER 5

CONCLUSION AND FUTURE SCOPE

5.1 Conclusion

5.2 Limitations of the System

5.3 Future Scope for Modification

5. Conclusion and References

5.1 Conclusion

A more user-friendly website was required to facilitate progress and enhance the overall user experience. Proposed solution includes the development of a clear and accessible database coupled with a streamlined viewing system. By integrating a WordPress admin module, The aim was to empower administrators and simplify maintenance tasks. Main focus is on creating a visually appealing platform that not only fosters a positive user experience but also encourages engagement. The vision is to establish a dynamic hub for knowledge sharing, seamlessly integrating technology with style. Ultimately, our goal is to create a platform that empowers both students and professors, simplifies tasks for faculty members.

5.2 Limitations of the System

- Still the review system is very time consuming and also need some better approach than by just viewing the paper in new window .
- The security of the system is not up to the mark as in some areas we used “get” method rather than “post” method which is going to be a big fuss in future.

5.3 Future Scope for modification

- Implement a second and third-level admin system for enhanced administrative control.

  2nd level: Further the paper will be reviewed more thoroughly to check any discrepancies.
  3rd level: Reviewing done better with plagiarism checks and AI tools.

- Introduce a paper view system to facilitate a better review mechanism.
- Introducing payment systems to get a more seamless user experience in one place.

- Using auto SEO plugins for monthly SEO to give this website a wider reach internationally.
- Convert the entire system into a comprehensive mobile application for greater accessibility and convenience.

BIBLIOGRAPHY

Books:

- Get Coding!(2017-2018): Learn HTML, CSS & JavaScript & Build a Website, App & Game – by Young Rewired State
- JavaScript (7th edition may 2020): The Definitive Guide, by David Flanagan

Websites:

- https://www.w3schools.com/
- https://wordpress.com/learn/
- https://www.coursera.org/
- https://chat.openai.com/

ANNEXURES

A-1: Design Diagram

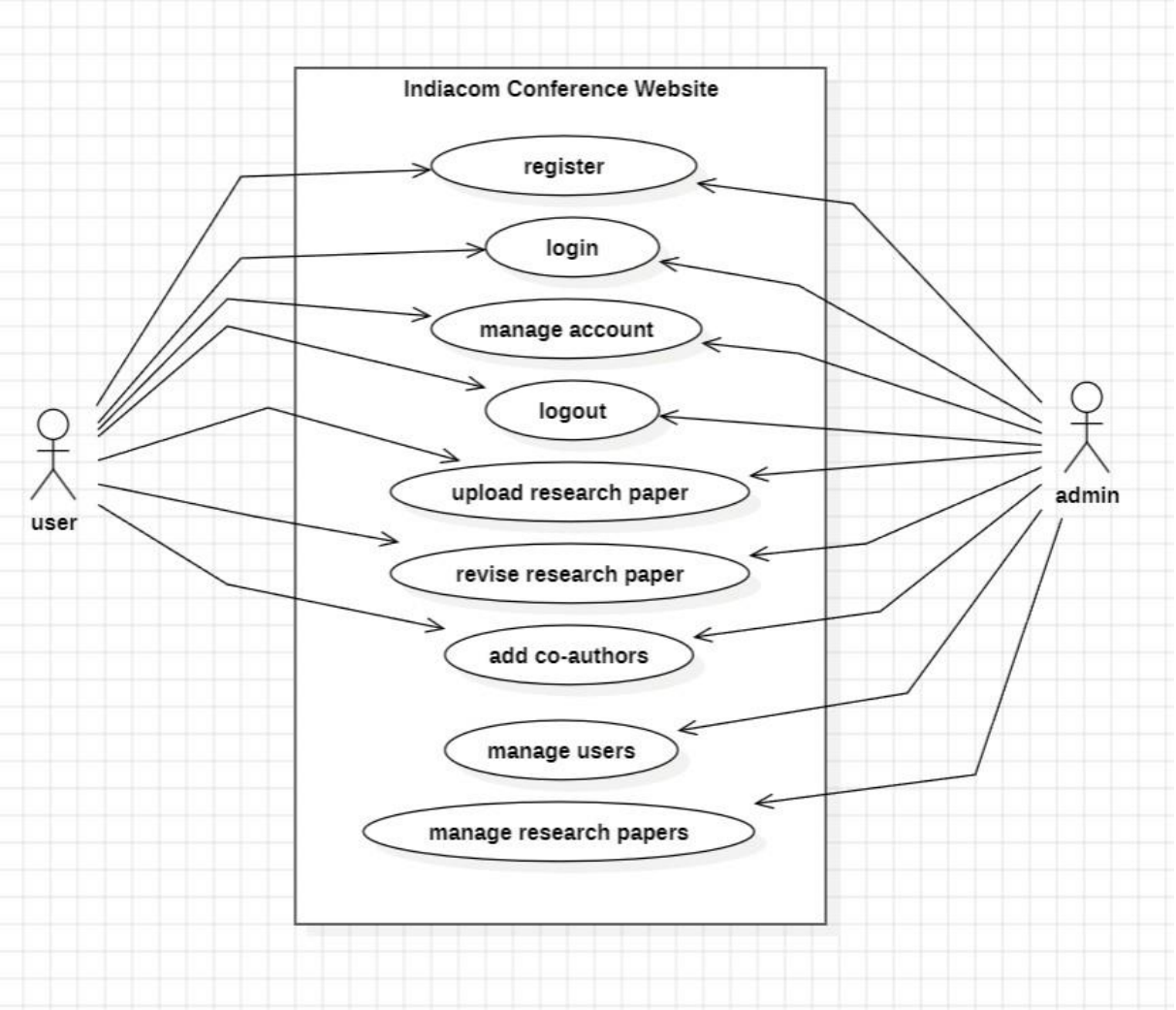


Figure A-1.1: Use case Diagram

A-2: Data Flow Diagram

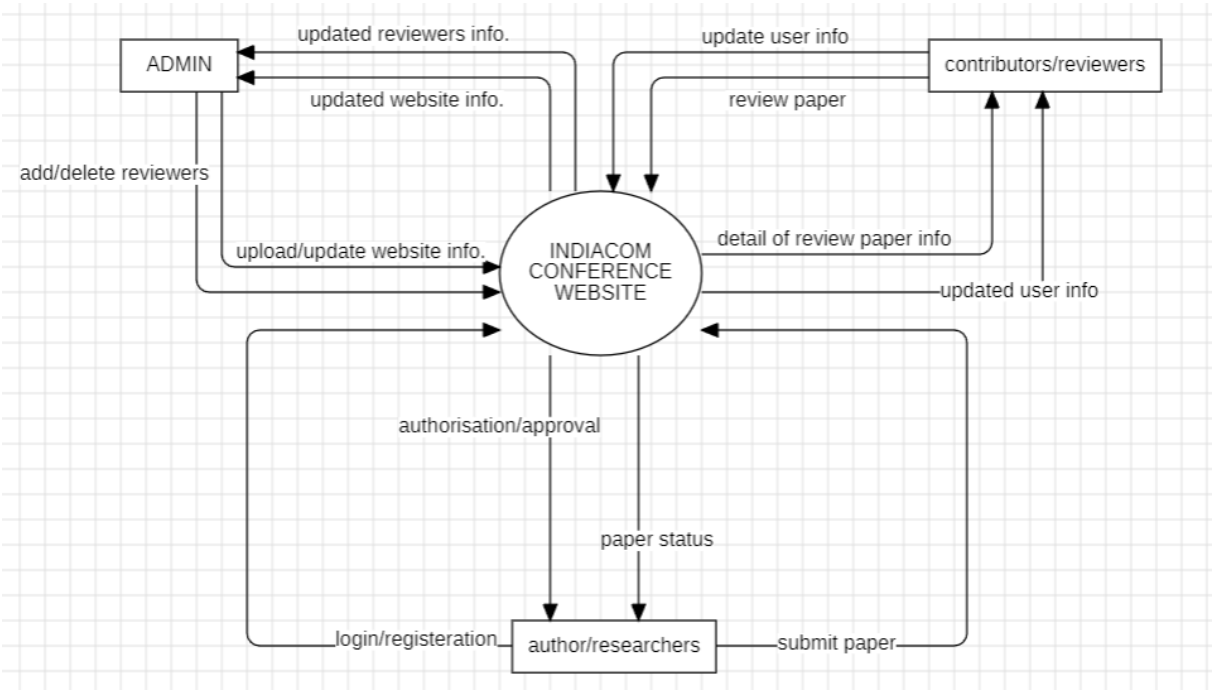


Figure A-2.1: DFD Level 0

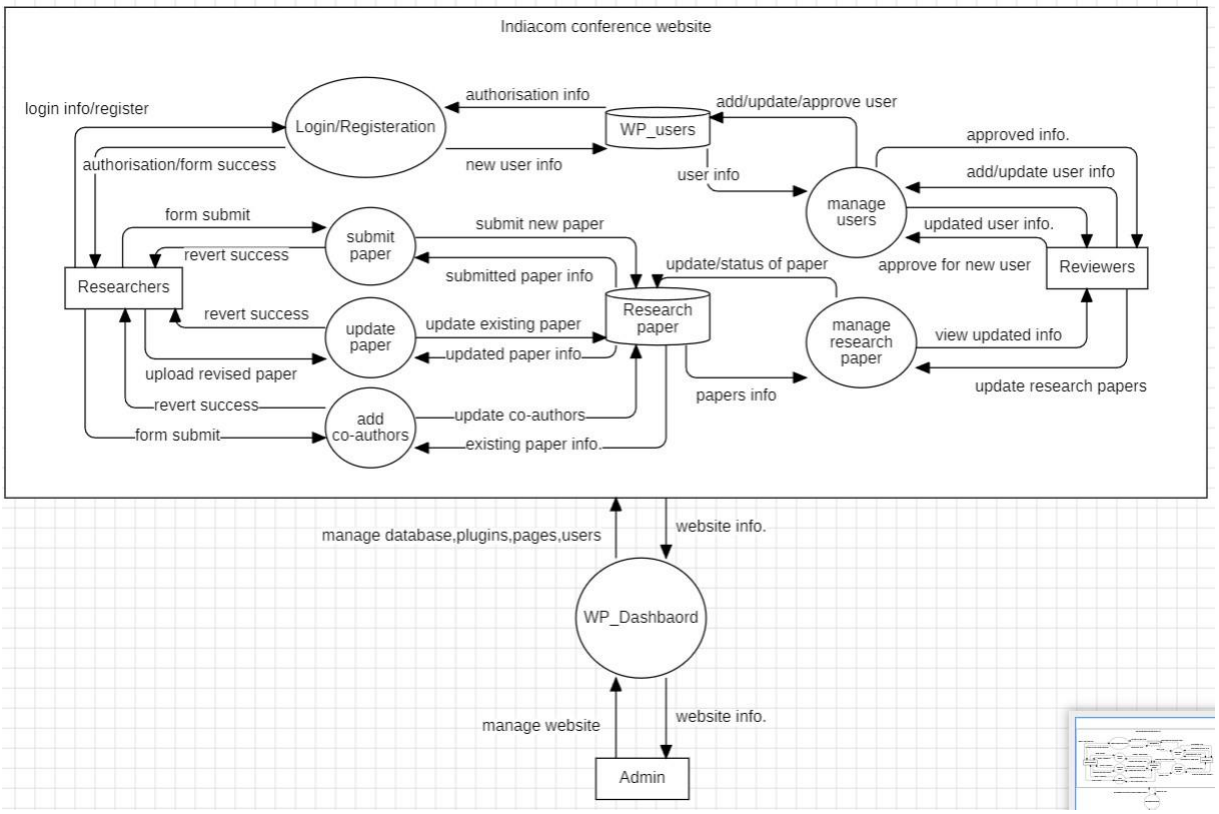
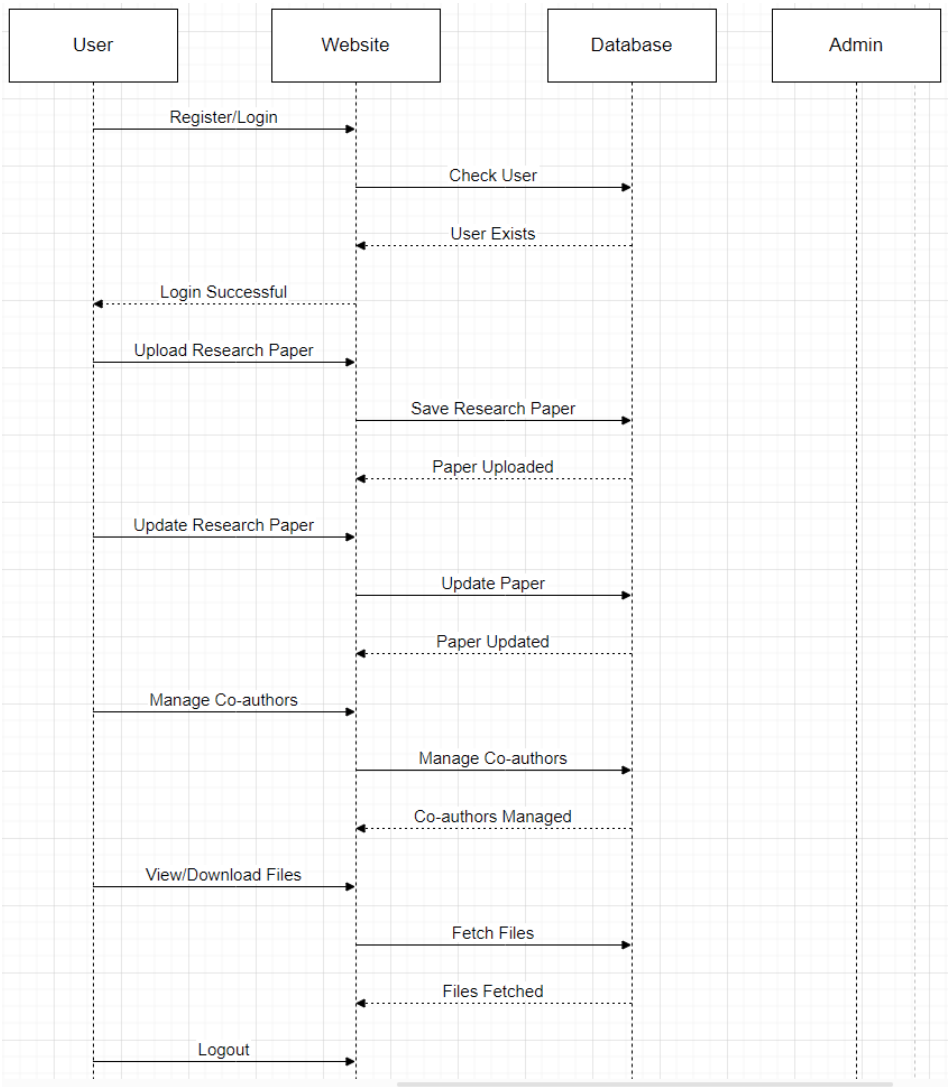


Figure A-2.2: DFD Level 1


User
Website
Database
Admin
Register/Login
Check User
User Exists
Login Successful
Upload Research Paper
Save Research Paper
Paper Uploaded
Update Research Paper
Update Paper
Paper Updated
Manage Co-authors
Manage Co-authors
Co-authors Managed
View/Download Files
Fetch Files
Files Fetched
Logout

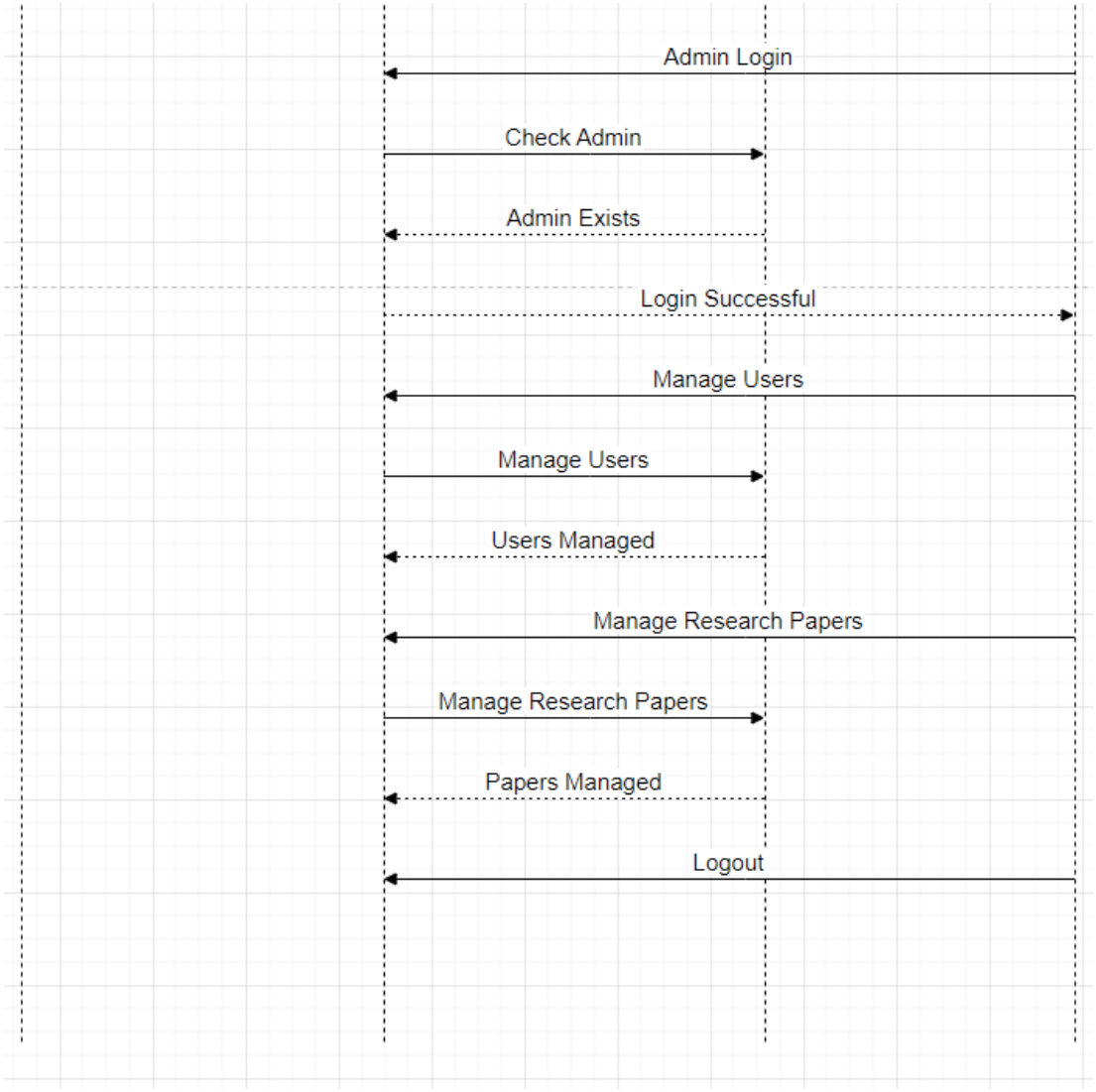


Figure A-3: Sequence diagram

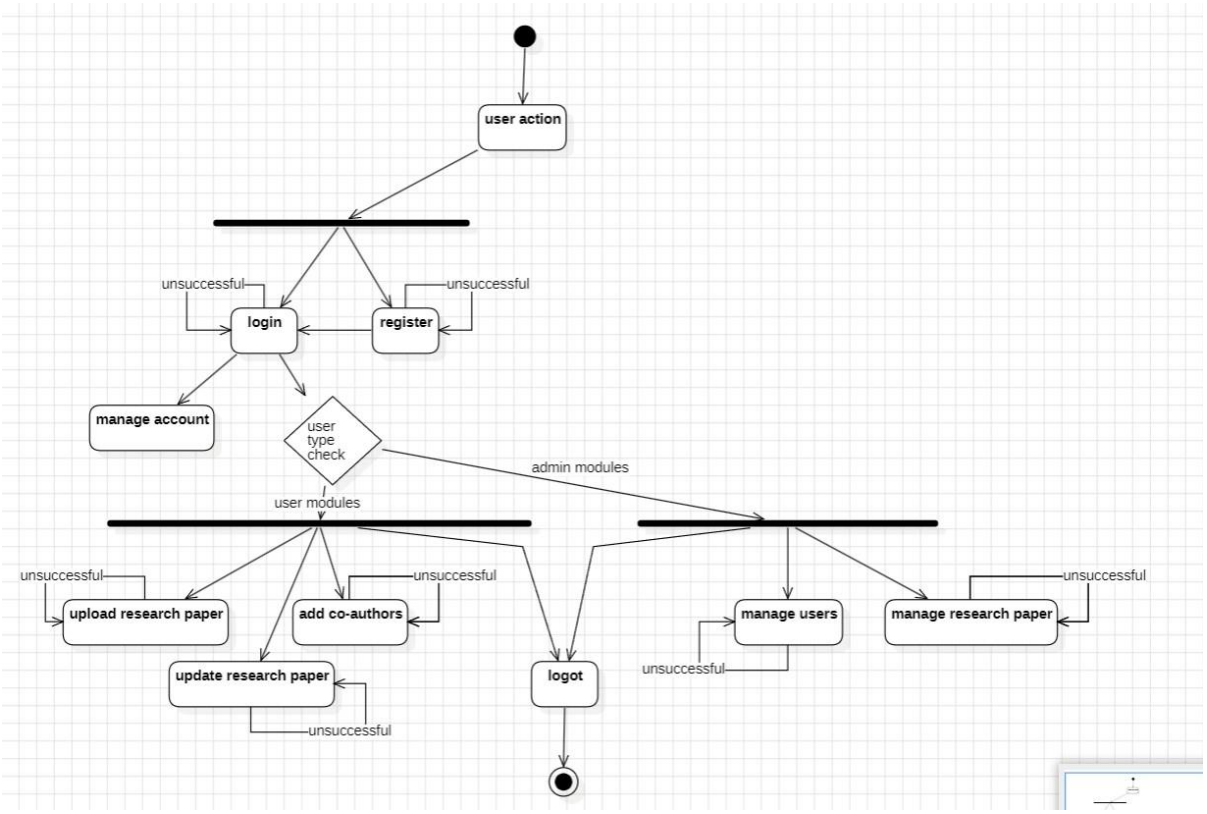


Figure A-4.: Activity diagram

A-5: Screenshots (Running View of the Forms/Pages)

Figure A-5.1: Home/Landing Page

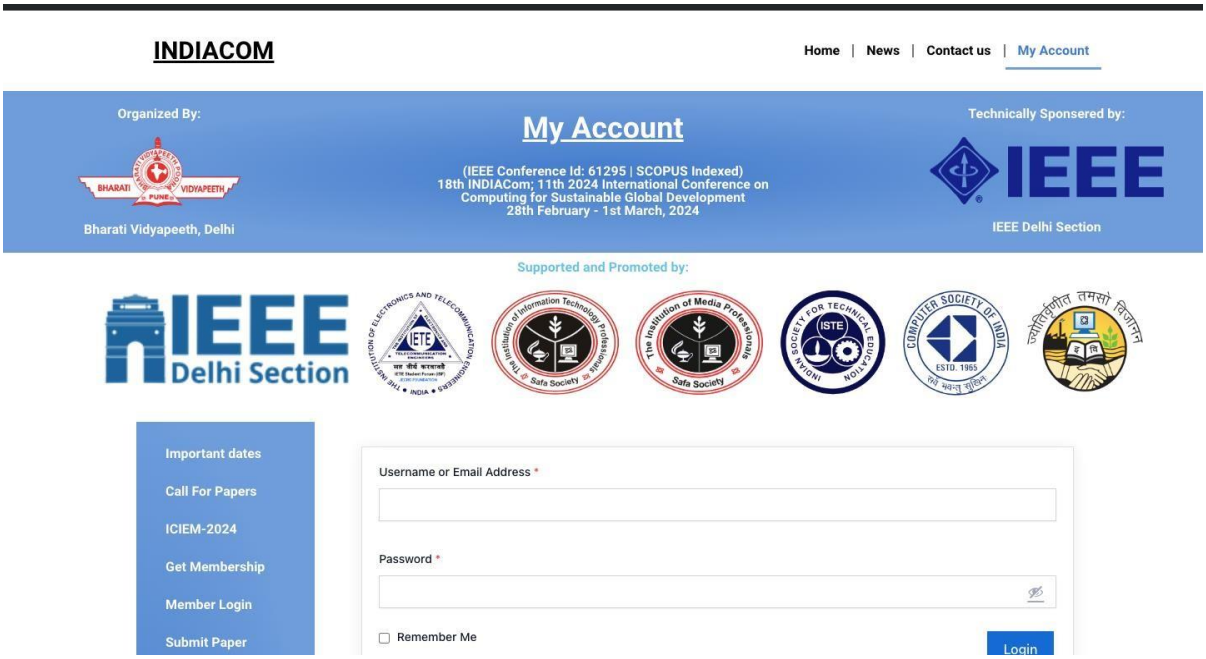


Figure A-5.2: my account/login Page

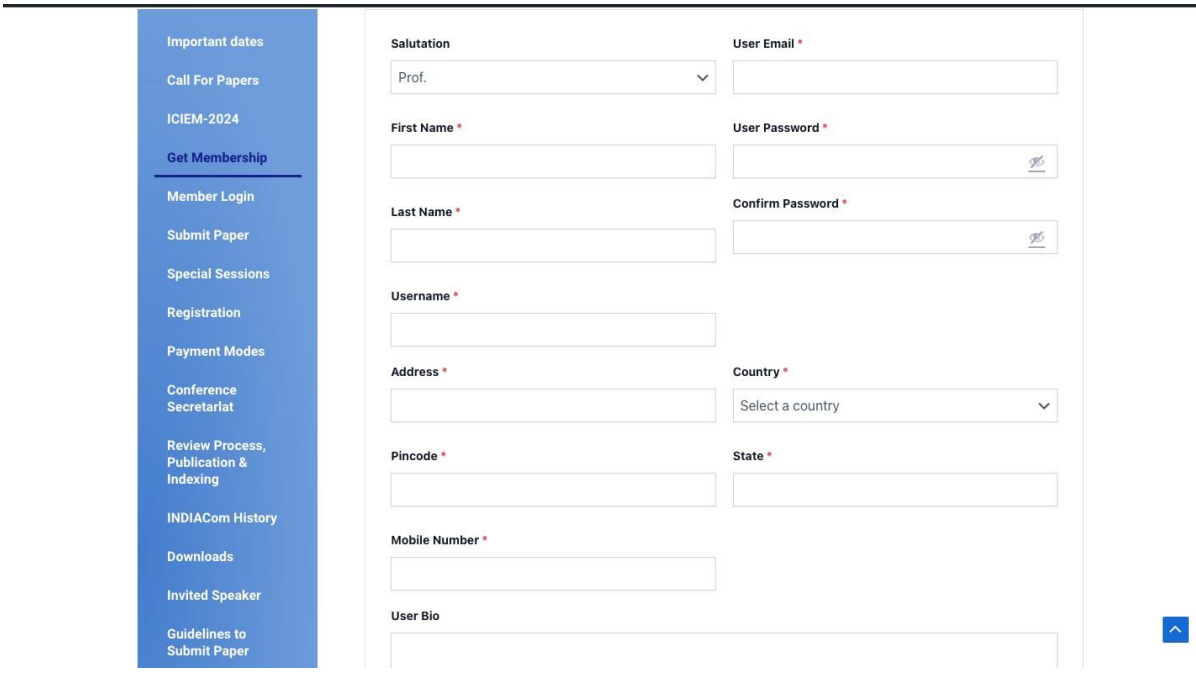


Figure A-5.3: get membership Page

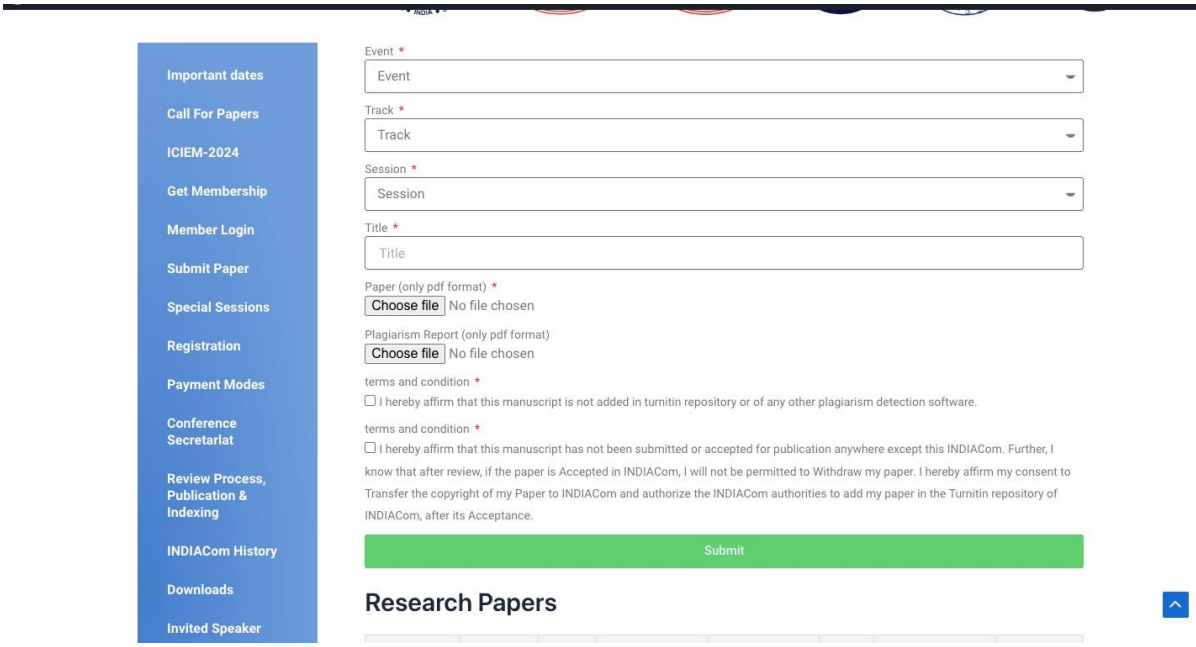


Figure A-5.4: upload research paper Page

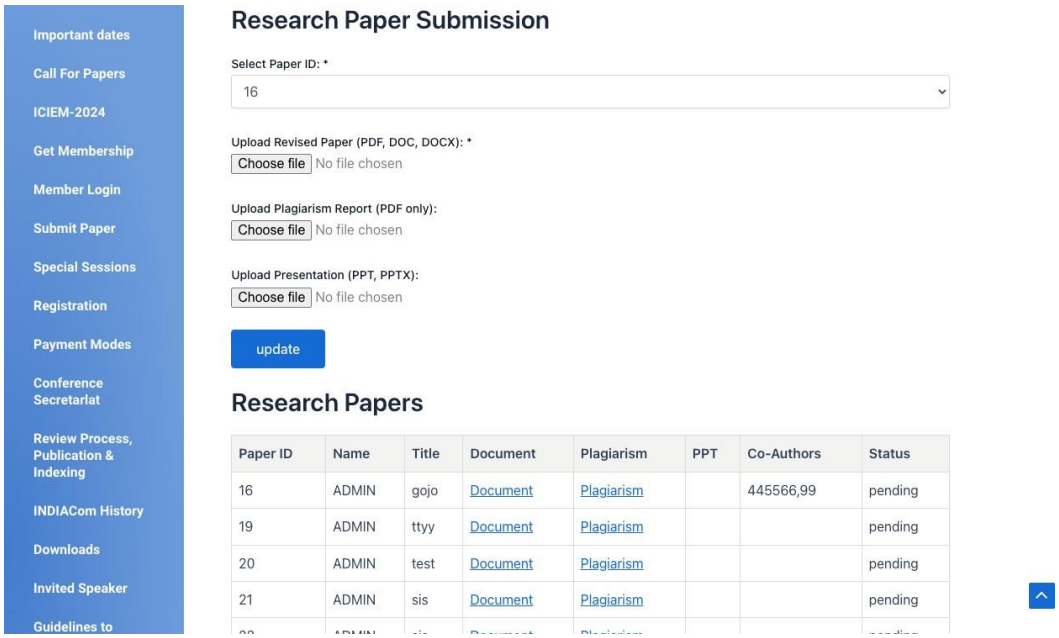


Figure A-5.5: update research paper Page

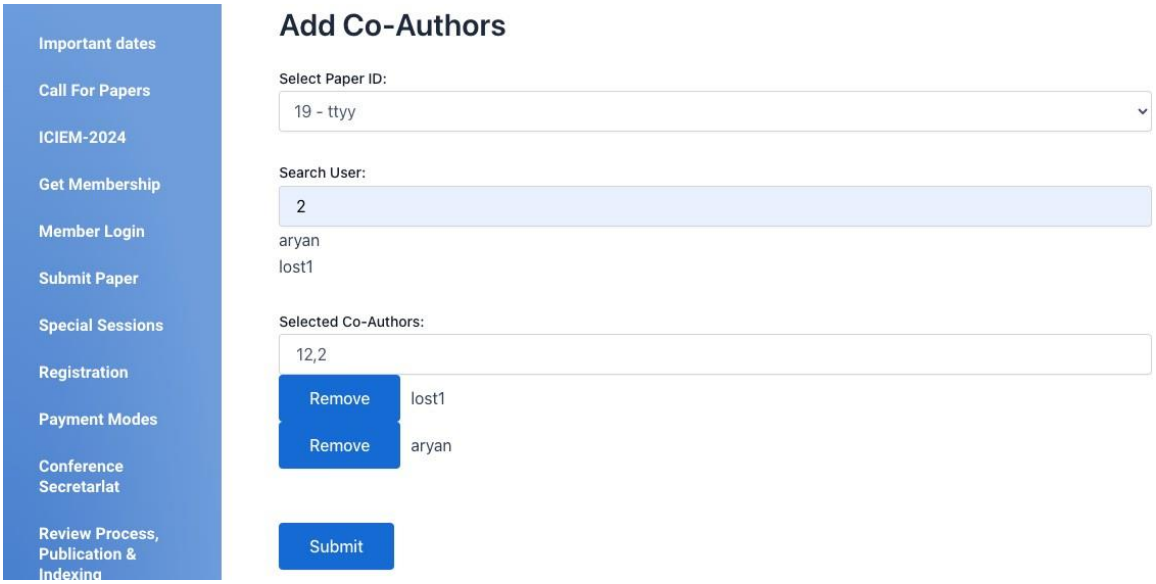


Figure A-5.6: add co-authors Page

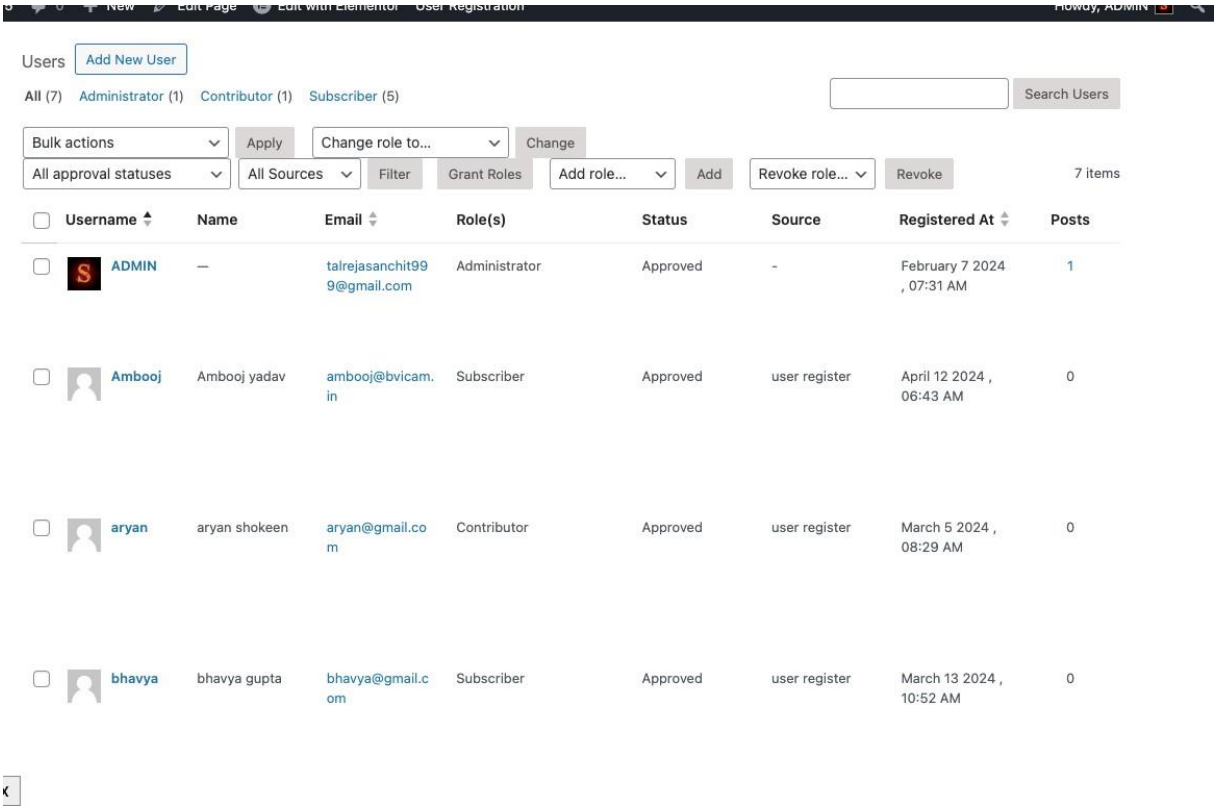


Figure A-5.7: manage users Page

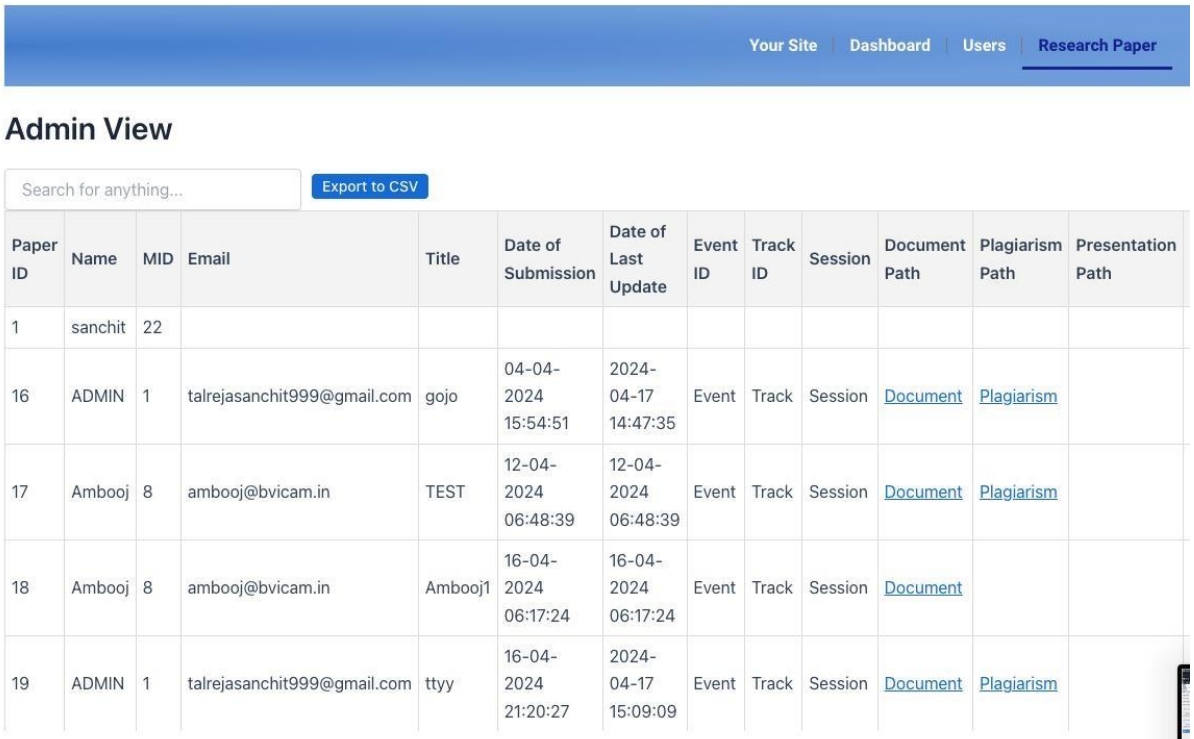
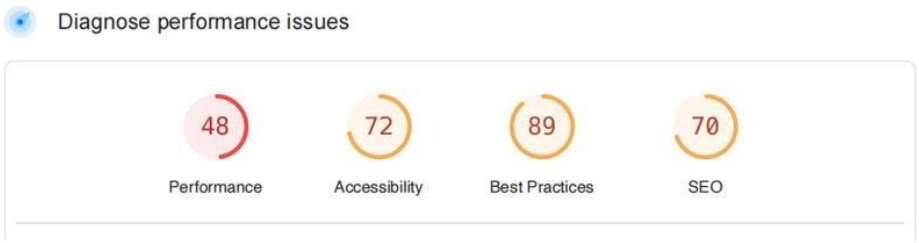


Figure A-5.8: manage research paper Pass

- old site report by pagespeed insights



- new site report by lighthouse

Figure A-5.9: generated reports

- Test says 1 page can handle almost 150 members at a single time input given (total 500 threads , every second , increasing by one) Test Done using jmeter.

145	1.71271E+12	43798	HTTP Req	200	OK	user 1-22	text	TRUE		233560	135	140	140	http://local	8907	0	3
146	1.71271E+12	44623	HTTP Req	200	OK	user 1-20	text	TRUE		233560	135	140	140	http://local	10098	0	3
147	1.71271E+12	49098	HTTP Req	200	OK	user 1-24	text	TRUE		233560	135	129	129	http://local	17195	0	5
148	1.71271E+12	44085	HTTP Req	200	OK	user 1-2	text	TRUE		233560	135	140	140	http://local	9583	0	6
149	1.71271E+12	42836	HTTP Req	200	OK	user 1-6	text	TRUE		233560	135	145	145	http://local	8857	0	7
150	1.71271E+12	42973	HTTP Req	200	OK	user 1-1	text	TRUE		233560	135	140	140	http://local	9476	0	7
151	1.71271E+12	43448	HTTP Req	200	OK	user 1-5	text	TRUE		233560	135	140	140	http://local	9187	0	7
152	1.71271E+12	502	HTTP Req	Non HTTP	Non HTTP	user 1-485	text	FALSE		2294	0	499	499	http://local	0	0	502
153	1.71271E+12	711	HTTP Req	Non HTTP	Non HTTP	user 1-201	text	FALSE		2294	0	421	421	http://local	0	0	711
154	1.71271E+12	66683	HTTP Req	200	OK	user 1-200	text	FALSE		233560	135	14	14	http://local	51447	0	711
155	1.71271E+12	26259	HTTP Req	500	Internal Se	user 1-313	text	FALSE		2839	135	472	472	http://local	26259	0	1101
156	1.71271E+12	26277	HTTP Req	500	Internal Se	user 1-311	text	FALSE		2839	135	472	472	http://local	26277	0	1106
157	1.71271E+12	25779	HTTP Req	500	Internal Se	user 1-461	text	FALSE		2839	135	467	467	http://local	25779	0	1903
158	1.71271E+12	1904	HTTP Req	Non HTTP	Non HTTP	user 1-352	text	FALSE		2294	0	498	498	http://local	0	0	1904

Figure A-5.10: load testing sheet