Indian Institute of Information Technology, Allahabad

Software Engineering

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SOFTWARE REQUIREMENT SPECIFICATION

Website for BDA Labs

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BDA LAB

1. Introduction:

The purpose of this software requirement specification document is to provide a comprehensive guide for the development of a workshop registration system. The system will enable users to register for workshops, make payments online, and provide feedback on the workshops they attend.

1.1 Purpose:

The purpose of the Big Data Analytics lab website is to provide a streamlined and efficient way for users to register for workshops, make payments online, and provide feedback on the workshops they have attended. The system is designed to improve the efficiency and effectiveness of workshop registration and payment processes and collect feedback to improve the quality of future workshops.

From the Students' point of view,

- The current manual processes for workshop registration and payment are time-consuming and error-prone.
- The current paper-based registration process can be difficult for some users to navigate, particularly those with accessibility needs.
- Finding information about the faculty can be troublesome.
- Before the website was made, students had to look for different faculty profiles to find resources.
- There is no central system to contact and get all the information about the workshops.

From the Professor’s point of view,

- Currently, the organization relies on paper-based feedback forms to collect feedback from workshop attendees.
- Managing and updating the attendee list can be hectic.
- There was no proper format of information for the whole organizing teams in a single place so managing is difficult.
- They have no way to search for information about a particular attendee or faculty.

So, this project is an attempt to overcome these drawbacks in IIIT Allahabad.

1.2 Scope:

The scope of this document includes the functional and non-functional requirements for the system, as well as the design specifications.

In Scope:

1. Managing workshop registration and payment.
2. Improving the efficiency and effectiveness of workshop registration and payment processes, as well as collecting feedback.
3. Accessing data set.
4. Serve as a guide for the users.

Out of Scope:

1. Ability to find the details about the users who haven’t registered.

1.3 Definitions, Acronyms, and Abbreviations:

Acronyms and Abbreviations:

1. “BDA Lab”: Website name(Big Data Analytics)
2. SRS: Software Requirement Specification
3. IIIT: Indian Institute of Information Technology

Definitions:

1. Workshop registration: Registering the details of the attendees of conferences and seminars
2. “BDA Lab website”: A Website for IIIT Students and faculty members that will be accessible to a range of users, including workshop attendees, administrators, and members of the organizing committee.

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1.4 References

1. IEEE SRS Format

1.5 Overview

The system will enable users to register for workshops online, make payments securely and conveniently, and provide feedback on the workshops they attend. Users will be able to create and manage their own profiles, view upcoming workshops, and register and pay for workshops of interest. Administrators will have access to a dashboard where they can manage workshop schedules, view registration and payment information, and generate reports. Members of the organizing committee will be able to

view attendance data, manage workshop details and schedules, and communicate with attendees.

The workshop registration system will be developed in node.js and MongoDB, and hosted on a secure and reliable web server. The system will be designed with accessibility and user experience in mind, ensuring that all users, regardless of their accessibility needs or technical expertise, are able to easily navigate and use the system.

By implementing the BDA Lab website, the organization aims to improve the efficiency and effectiveness of workshop registration and payment processes and to collect feedback to improve the quality of future workshops. The system is intended to provide a better user experience for all users and to help the organization achieve its mission of providing high-quality, accessible workshops to its community.

2. Overall Description:

2.1 Product Perspective:

2.2 Product Functions:

BDA Lab website supports the following use cases:

Functional Requirements:

S No	Use Cases	Description of use cases
	User:	
1	View Upcoming Conferences	Displays the details of upcoming conferences.
2	About Us	Displays information about the organization, its

		mission, and its history.
3	View Organizing Team	Displays details of the members of the Organizing team.
4	View Details and Register for a Particular Conference	Displays details of the selected conference and lets the user register to attend it.
5	List of Registered Conferences	Displays the list of conferences the user has registered for.
6	View Publications	Display the list of all the publications of the institute.
7	View Award Recognition	Display the list of awards.
8	View Resources	Display all the helpful and essential resources.
9	View Ongoing Research Works	Ongoing Research works can be seen.
10	Contact Us	Contacts the members of organizing team.
	Admin:	
11	Manage/Update Attendee List	Managing/Updating the attendee list.
12	Add & Delete Conferences	Adding/Deleting the conferences(details).
13	Manage Organizing Team	Managing the organizing team.
14	Request For Collaboration	Requesting collaboration for ongoing research works for the user and accepting/rejecting by the admin for the same.
15	Update List of Speakers	Updating the list of speakers for a particular conference
	Supporting Use Cases	
16	View Speaker List	Displays the list of speakers corresponding to the selected conference.
17	Payment	Provides a portal for the user viewing upcoming conference to pay and register for the same
18	Access to Dataset	Displays dataset if the user has permission to view

19	Software Tools	Displays software tool details as per login permission

2.3 User Characteristics:

The user should be familiar with the OS-based devices.

2.4 Principal Actors:

The two principal actors in “BDA Lab website” are “Admin” and “User”

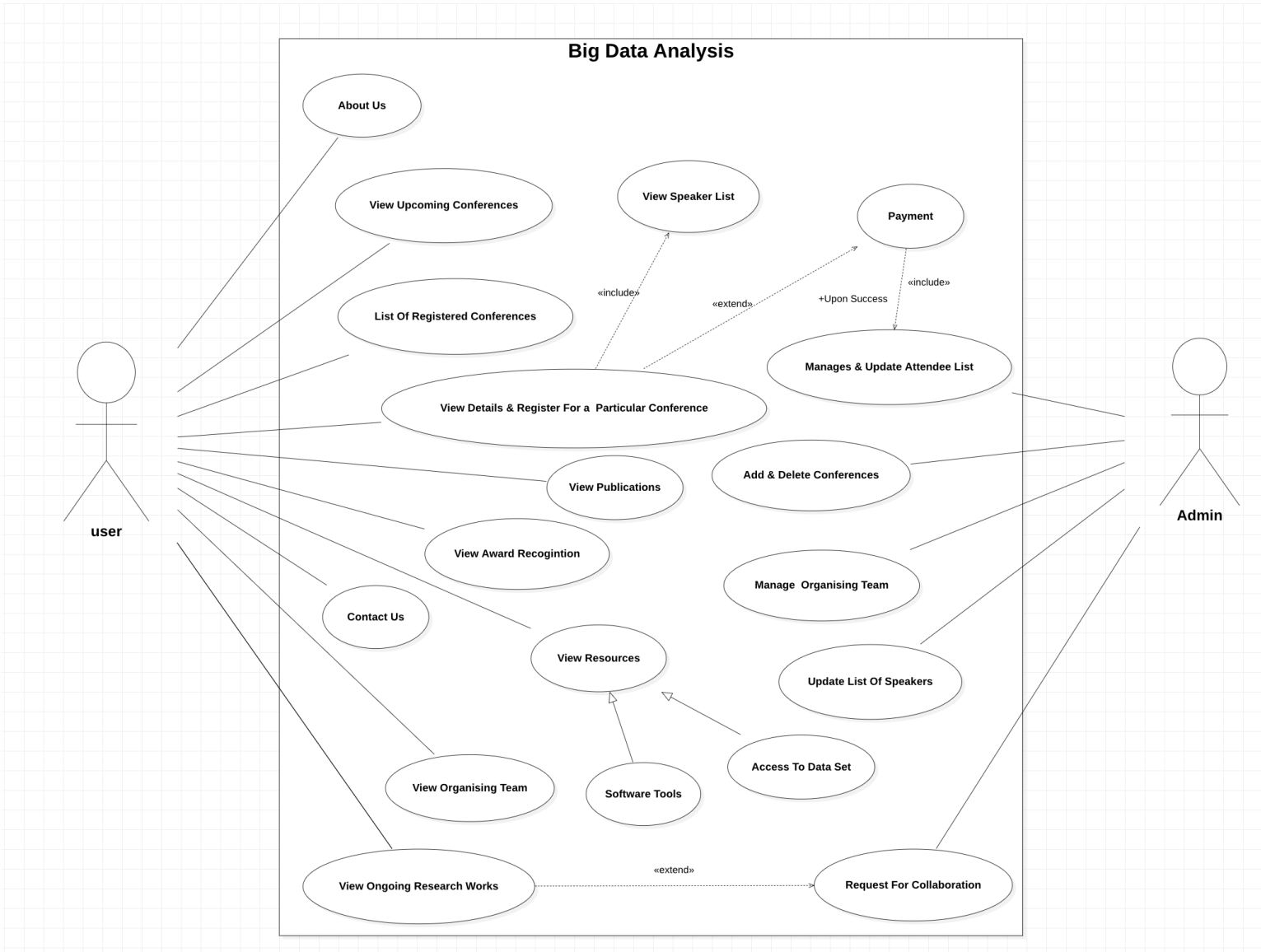
2.5 General Constraints:

1. Working on “BDA Lab website” requires an internet connection
2. BDA Lab is a web-based application so every user must know its link address.

2.6 Assumptions and Dependencies:

1. Availability of internet connection
2. User must have an account and the knowledge to fill in the forms.
3. Admin must have an account in order to access the database.

APPENDIX A: USE CASE DIAGRAM


Big Data Analysis
About Us
View Upcoming Conferences
View Speaker List
Payment
List Of Registered Conferences
«include»
«extend»
+Upon Success
«include»
Manages & Update Attendee List
View Details & Register For a Particular Conference
user
Admin
View Publications
Add & Delete Conferences
View Award Recogintion
Manage Organising Team
Contact Us
View Resources
Update List Of Speakers
Access To Data Set
View Organising Team
Software Tools
View Ongoing Research Works
«extend»
Request For Collaboration

3. Specific Requirements

3.1 Functional Requirements

We describe the functional requirements by giving various use cases.

USE CASE 1:

- Name: View upcoming conferences
- Actor: User
- Preconditions: The user is logged into the system
- Main success scenarios:
    1. The user navigates to the "Upcoming Conferences" page
    2. The system displays a list of upcoming conferences
    3. The user selects a conference to view more details
    4. The system displays the conference details, including date, time, location, and registration information
- Extension: None
- Post-condition: The user is able to view details of the selected conference and can proceed to register for the conference if desired

USE CASE 2:

- Name: About Us page
- Actor: User
- Preconditions: None
- Main success scenarios:
    1. The user navigates to the "About Us" page

2. The system displays information about the organization, its mission, and its history

- Extension: None
- Post-condition: The user has information about the organisation and its activities

USE CASE 3:

- Name: View Organising Team
- Actor: User
- Preconditions: None
- Main success scenarios:
  1. The user navigates to the "Organising Team" page
  2. The system displays information about the organising team
- Extension: None
- Post-condition: The user has information about the organising team

USE CASE 4:

- Name: View Details and Register for a Particular Conference
- Actor: User
- Preconditions: The user has to select a particular conference
- Main success scenarios:
  1. The user navigates to the “Register for conference” page which contains information about the selected workshop and a link to register for the same conference
  2. The user can switch the workshop they are viewing and register for a different conference
- Inclusion: View speaker list (use case: 16)

- Extension: The user will be taken to a payment portal if they press the register button(use case: 17)
- Post-condition: The user has viewed information about their selected conference and has opened the payment portal

USE CASE 5:

- Name: List of Registered Conferences
- Actor: User
- Preconditions: None
- Main success scenarios:
    1. The user navigates to the “Registration History” page which contains information about all the conferences the user has registered for
- Extension: None
- Post-condition: The user has information about the conferences they have registered for.

USE CASE 6:

- Name: View Publications
- Actor: User
- Preconditions: The user is logged into the system
- Main success scenarios:
    1. The user navigates to the page where the publications are listed
    2. The system displays a list of publications
    3. The user can click on a publication
- Extension: None
- Post-condition: The user has viewed the details of the selected resource.

USE CASE 7:

- Name: View Award Recognition
- Actor: User
- Preconditions: The user is logged into the system
- Main success scenarios:
    1. The user navigates to award recognition page
    2. The system displays a list of received awards
- Extension: None
- Post-condition: The user has viewed the details of the selected resource.

USE CASE 8:

- Name: View Resources
- Actor: User
- Preconditions: The user is logged into the system
- Main success scenarios:
    1. The user navigates to the page where the resources are listed
    2. The system displays a list of available resources
    3. The user can click on a resource to view its details
    4. The system displays the details of the selected resource, such as its name, description, and any associated files or links
- Extension: None
- Dependency: The page result is dependent on dataset access and software tools available (use cases 18 and19)
- Post-condition: The user has viewed the details of the selected resource.

USE CASE 9:

- Name: View Ongoing Research Works

- Actor: User
- Preconditions: The user is logged into the system
- Main success scenarios:
    1. The user navigates to the page of ongoing research works
    2. The system displays a list of all the ongoing research works in the institute
- Extension: The user can request to collaborate for the ongoing research (Use case 14)
- Post-condition: The user has viewed the details of the selected resource.

USE CASE 10:

- Name: Contact Us
- Actor: User
- Preconditions: The user has internet access and is on the website's Contact Us page
- Main success scenarios:
    1. The user navigates to the Contact Us page and selects a preferred contact method, such as email or phone
    2. The system displays the appropriate contact details for the selected method
    3. The user can use the provided contact details to send a message to the organization
    4. The system confirms the message has been received and provides an estimated response time
    5. The organization responds to the user's message within the estimated response time

USE CASE 11:

- Name: Manage and update the attendee list
- Actor: Administrator

- Preconditions: The administrator is logged into the system and has appropriate permissions
- Main success scenarios:
    1. The administrator navigates to the "Manage Attendees" page
    2. The system displays a list of attendees for each conference
    3. The administrator selects a conference to manage attendees for
    4. The system displays a list of attendees for the selected conference
    5. The administrator can add a new attendee by selecting the "Add Attendee" button and filling out the form
    6. The administrator can delete an attendee by selecting the "Delete" button next to the attendee's name
    7. The administrator can update an attendee's information by selecting the "Edit" button next to the attendee's name and updating the form
- Extension: None
- Post-condition: The administrator has managed and updated the attendee list for the selected conference.

USE CASE 12:

- Name: Add and delete the conferences
- Actor: Administrator
- Preconditions: The administrator is logged into the system and has appropriate permissions
- Main success scenarios:
    1. The administrator navigates to the "Manage Conferences" page
    2. The system displays a list of conferences
    3. The administrator selects the "Add Conference" button
    4. The system displays a form for adding a new conference
    5. The administrator enters the conference details and submits the form

6. The system adds the new conference to the list of conferences

- Extension:
  - Delete Conference:
    1. The administrator selects the conference to be deleted
    2. The system displays the details of the conference
    3. The administrator selects the "Delete Conference" button
    4. The system prompts the administrator to confirm the deletion
    5. The administrator confirms the deletion
    6. The system removes the conference from the list of conferences
- Post-condition: The administrator has added or deleted a conference from the system

USE CASE 13:

- Name: Manage organizing team
- Actor: Admin
- Preconditions: The admin is logged into the system and has appropriate permissions
- Basic flow:
  1. The admin navigates to the page where the organizing team is listed
  2. The system displays a list of the organizing team members
  3. The admin can click on a team member's name to view their details
  4. The system displays the selected team member's details, such as their name, role, and contact information
  5. The admin can edit or delete the selected team member's information as needed
- Alternate flow: None

- Postconditions: The admin has managed the organizing team by viewing, editing, or deleting a team member's information.

USE CASE 14:

- Name: Request for collaboration
- Actor: User
- Preconditions: The user is logged into the system
- Main success scenarios:
    1. The user navigates to the "Collaboration" page
    2. The system displays a form for submitting a collaboration request
    3. The attendee enters the details of the collaboration request and submits the form
    4. The system sends an email notification to the organization with the collaboration request
- Extension: None
- Post-condition: The attendee has submitted a collaboration request to the organization

USE CASE 15.

- Name: Update list of speakers
- Actor: Administrator
- Preconditions: The administrator is logged into the system and has appropriate permissions
- Main success scenarios:
    1. The administrator navigates to the "Manage Speakers" page
    2. The system displays a list of speakers for each conference
    3. The administrator selects a conference to manage speakers for
    4. The system displays a list of speakers for the selected conference

5. The administrator can add a new speaker by selecting the "Add Speaker" button and filling out the form
6. The administrator can delete a speaker by selecting the "Delete" button next to the speaker's name
7. The administrator can update a speaker's information by selecting the "Edit" button next to the speaker's name and updating the form

- Extension: None
- Post-condition: The administrator has managed and updated the list of speakers for the selected conference.

USE CASE 16:

- View Speaker List
- Actor: None
- Preconditions: The user is logged into the system and has appropriate permissions
- Basic flow:
  1. The user navigates to the page where the speaker list is displayed
  2. The system displays a list of speakers for each conference
  3. The user can click on a speaker's name to view their bio and information about their sessions
  4. The system displays the selected speaker's bio and session information
- Extension: None
- Post-condition: The user has viewed the selected speaker's bio and session information.

USE CASE 17:

- Name: Payment

- Actor: None
- Preconditions: The user has registered for a conference and has provided payment information
- Main success scenarios.
    1. The system processes the user's payment information
    2. The system confirms a successful payment
    3. The system sends an email to the user with a confirmation of registration and payment
- Inclusion: Manage and update the attendee list (Use case 11)
- Extension: None
- Post-condition: The user has successfully registered for the conference and has received a confirmation of registration and payment.

USE CASE 18:

- Name: Access to dataset
- Actor: None
- Preconditions: The user is logged into the system and has appropriate permissions
- Main success scenarios.
    1. The user navigates to the page where the dataset is listed
    2. The system displays the available datasets
    3. The user can click on a dataset to view its details
    4. If the dataset is protected, the system prompts the user to enter their login credentials
    5. The user enters their login credentials and submits the form
    6. The system verifies the user's credentials and grants access to the protected dataset if the user has appropriate permissions
    7. The system displays the protected dataset to the user

8. If the user does not have appropriate permissions, the system denies access to the protected dataset and displays an error message

- Extension: None
- Post-condition: The user has accessed the selected dataset

USE CASE 19:

- Name: Software Tools
- Actor: None
- Preconditions: The user is logged into the system and has appropriate permissions
- Main success scenarios.
    1. The user navigates to the page where the software tools are listed
    2. The system displays a list of available software tools
    3. The user can click on a tool to view its details
    4. If the tool is protected, the system prompts the user to enter their login credentials
    5. The user enters their login credentials and submits the form
    6. The system verifies the user's credentials and grants access to the protected tool if the user has appropriate permissions
    7. The system displays the protected tool to the user
    8. If the user does not have appropriate permissions, the system denies access to the protected tool and displays an error message
- Extension: None
- Post-condition: The user has accessed the selected software tool

3.2 Non-Functional Requirements

- Users will be able to see various workshops and information.

- Users will be able to see the list of various members of the organizing committee and contact them.
- Registration will be much easier as there will be a one-stop solution for the same
- Access to specific resources will be available to a certain number of users.

3.3 Hardware Requirements:

1. Internet Connection
2. Any other OS-based device

3.4 Software Requirements:

1. Web Browser

3.5 Design Constraints:

- **Security:** The files in which the information regarding securities should be secured against malicious deformations.
- **Fault Tolerance:** Data should not become corrupted in case of a site crash.
- **Availability:** users must have the access to the website anytime they want.