Software Requirements Specification

for

EventriX

Version 1.0

Prepared by

Group #3: **Group Name:** TechTroopers

Majji Sharmila	230620	msharmila23@iitk.ac.in
Mohit Parihar	230660	mohitp23@iitk.ac.in
Parmar Priyen Indravadan	230735	parmari23@iitk.ac.in
Chaitanya Vishnoi	230316	chaitanyav23@iitk.ac.in
Shaik Jameel Ur Rahaman	230951	shaikja23@iitk.ac.in
Hemanth Kumar Ampili	230128	hemanthka23@iitk.ac.in
Divyansh Bansal	230381	divyanshb23@iitk.ac.in
Misar Shlok Sunil	230653	smshlok23@iitk.ac.in
Pranav krishna	230771	pranavkris23@iitk.ac.in
Jayant Mitawa	230504	jayantm23@iitk.ac.in

Course: CS253

Mentor TA: Hemang Mohanlal Khatri

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On Gradescope

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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	All group members	The first version of the requirements document	24/01/2025

INTRODUCTION

Product Scope

Our project aims to develop a simple and user-friendly event management for university clubs, cells, and societies of *MnC, SnT, Gns,* and *AnC*. This tool will serve as the ultimate solution for club members to plan and organize their events with ease.

Salient Features :

- It will facilitate the smooth execution of events and competitions.
- Users can easily keep track of the upcoming events and plan accordingly.
- It will help the students with common interests interact and have fun at the events.
- It will act as a platform for providing students with essential information and updates about the various clubs, events, and competitions in one place.
- Users will be able to interact with the event organizers more easily through this website.
- It will help the students try out new and various activities in the clubs and improve their skills.
- The users can see everything about the club activities and competitions on one website without switching between multiple platforms like WhatsApp and Email.

Intended Audience and Document Overview

Intended Audience :

This document is intended to address the needs of a wide range of stakeholders such as

- Student Community
- Faculty/Staff
- Campus clubs
- Festival Organisers
- Visitors

It aims to cater to a diverse audience by providing relevant information for each group. The intent and purpose of the app may vary significantly depending on the specific requirements of each stakeholder.

Document Overview :

- This document serves as a working draft for the event management platform and is subject to changes as the project evolves.
- In its current form, it is incomplete and will require continuous updates and refinements over time.
- Requirements may be modified, and new requirements may be added as the development progresses and the platform's scope and functionality become clearer.
- It provides a foundational framework to guide the current development process and future improvements.
- Feedback from users, organizers, and other stakeholders will play a critical role in refining and enhancing the platform to meet their needs effectively.

Definitions, Acronyms, and Abbreviations

Term	Definition
MnC	Abbreviation used for Media and Culture Council of IIT Kanpur
SnT	Abbreviation used for Science and Technology Council of IIT Kanpur
GnS	Abbreviation used for Games and Sports Council of IIT Kanpur
AnC	Abbreviation used for Academics and Career Council of IIT Kanpur
User	Reviewer or Author.
HTTP	HyperText Transfer Protocol

Database	Collection of all the information monitored by this system.
FAQs	Frequently Asked Questions
HTML	The HyperText Markup Language, or HTML is the standard markup language for documents designed to be displayed in a web browser.
Admin	A registered user of the app with special privileges.

Document Conventions

Formatting Conventions :

- Georgia font size 12 is used throughout the document for the description.
- The document maintains a 1'' margin and is single-spaced throughout.
- Headings use font size 22, Georgia font style, and subHeadings use font size 13, Lora Semi Bold font style.
- Comments are italicized and important words are made bold.

References and Acknowledgments

- IEEE Computer Society. *IEEE Std 830-1998: IEEE Recommended Practice for Software Requirements Specifications*. IEEE, 1998.
- Used Canva to create use cases in this document.
- Used Figma to create flowcharts in this document.
- Used the website Geeks for Geeks to get information.
- Used MongoDB logo to represent the database.

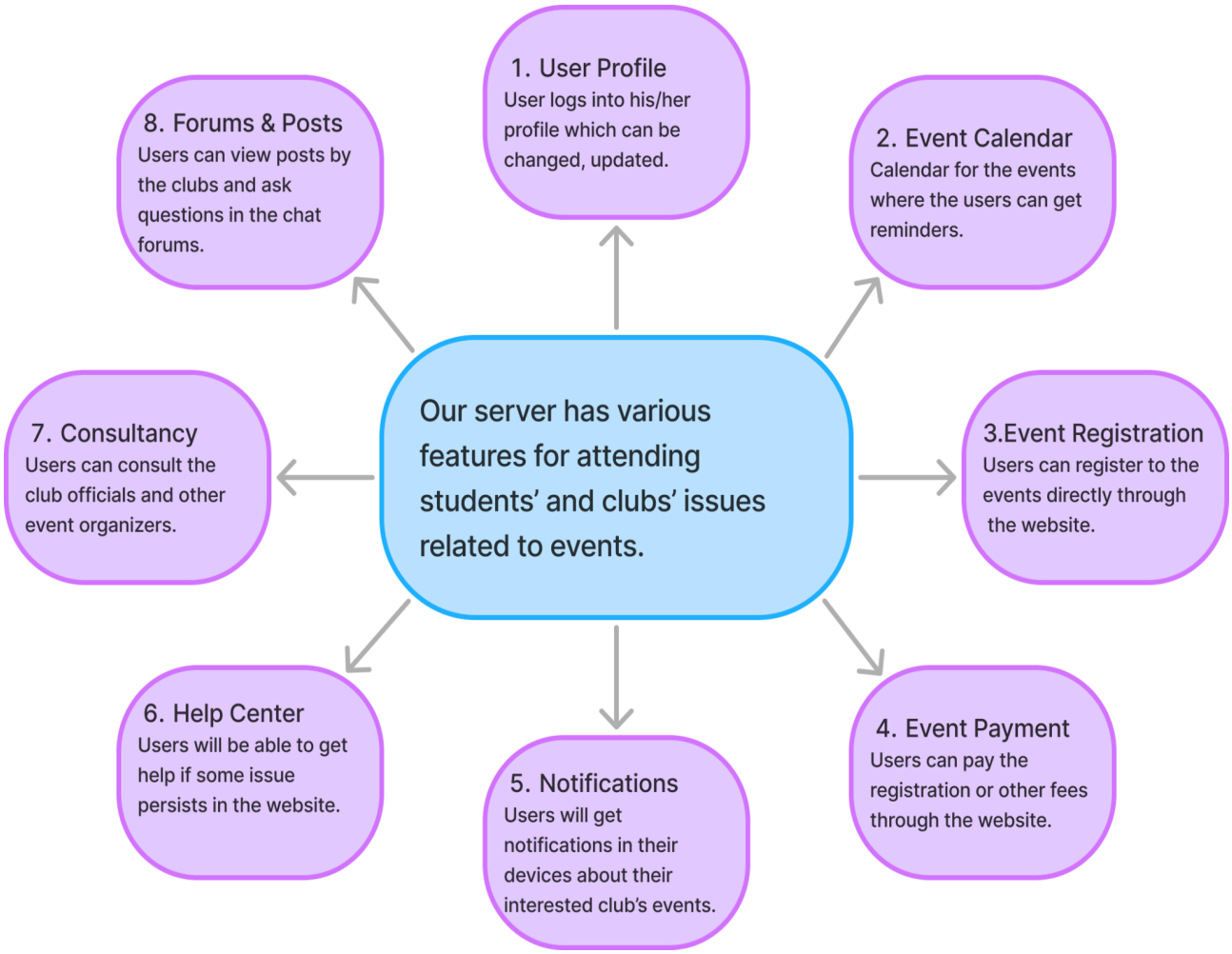
OVERALL DESCRIPTION

Product Overview

Currently, there is no dedicated platform for managing notifications about clubs and societies. Updates are shared through various WhatsApp groups and emails, often leading to significant confusion. To address this issue, we propose developing a centralized website for our college.

This platform will provide information about Gymkhana events, workshops, and festivals. It will cover everything from scheduling and managing events to registering for upcoming events and competitions. Additionally, it also has a development scope, such as buying and selling merchandise through this website.

Our goal is to streamline communication so students no longer get lost in the madness of emails. By minimizing organizer conflicts, the platform ensures smooth and efficient execution of events—whether it's a small meeting or a large-scale festival.



Product Functionality

Our project helps students in various ways, it comes with various features like the following :

- User Profile
- Event and Workshop Calendar
- Event and Workshop Reminders
- Event and Workshop Registration
- Event and Workshop Payment
- Notifications
- Help Center
- Consultancy
- Forums and Posts

Design and Implementation Constraints

The design and implementation constraints for this software product are outlined below:

- All information related to users, clubs, events, and workshops must be securely maintained in a database with accessibility through the website interface.
- Users must log in with valid credentials, including a correct username and password, to access their accounts and carry out necessary tasks.
- The product's performance must ensure that the response time for loading should be as minimum time as possible.
- The platform must be accessible from any device with internet browsing capabilities and a stable internet connection.

Assumptions and Dependencies

- Users should have basic computer skills to navigate the system easily.

SPECIFIC REQUIREMENTS

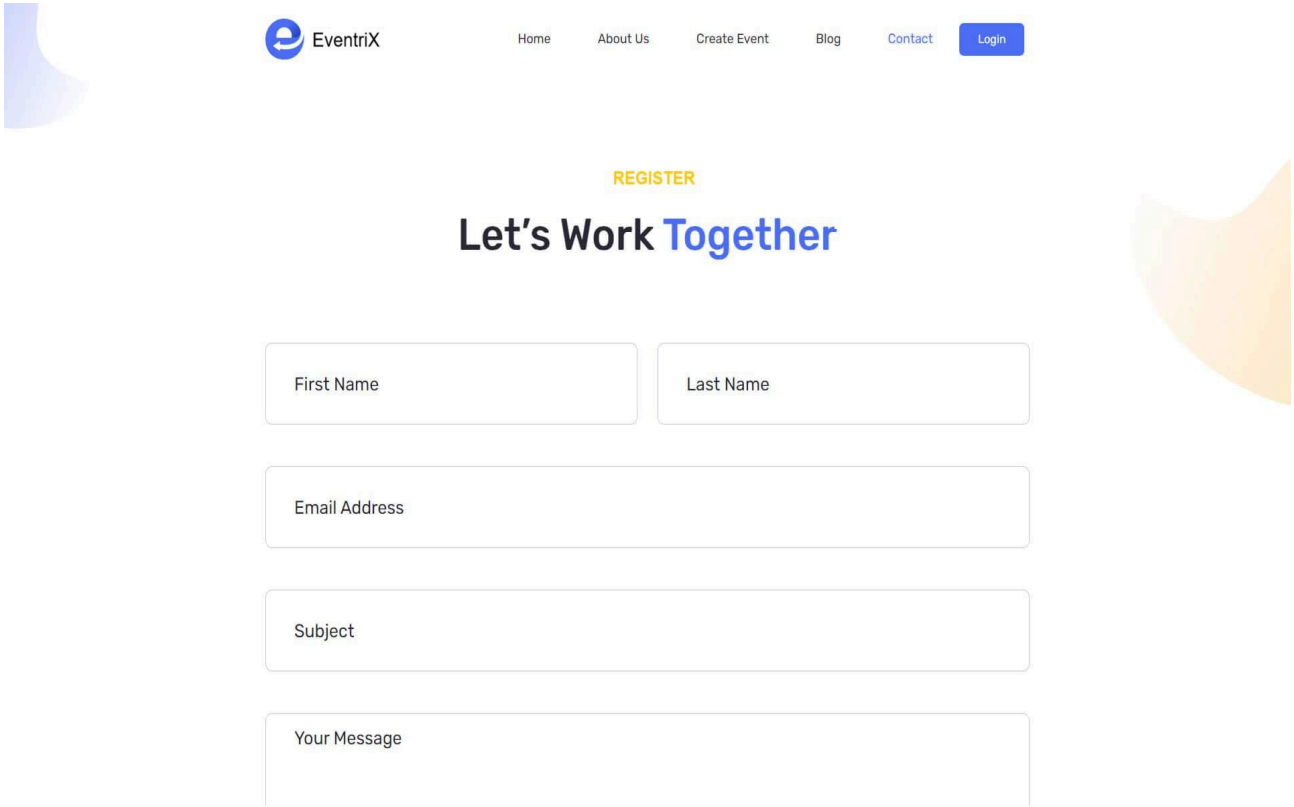
External Interface Requirements

User Interfaces

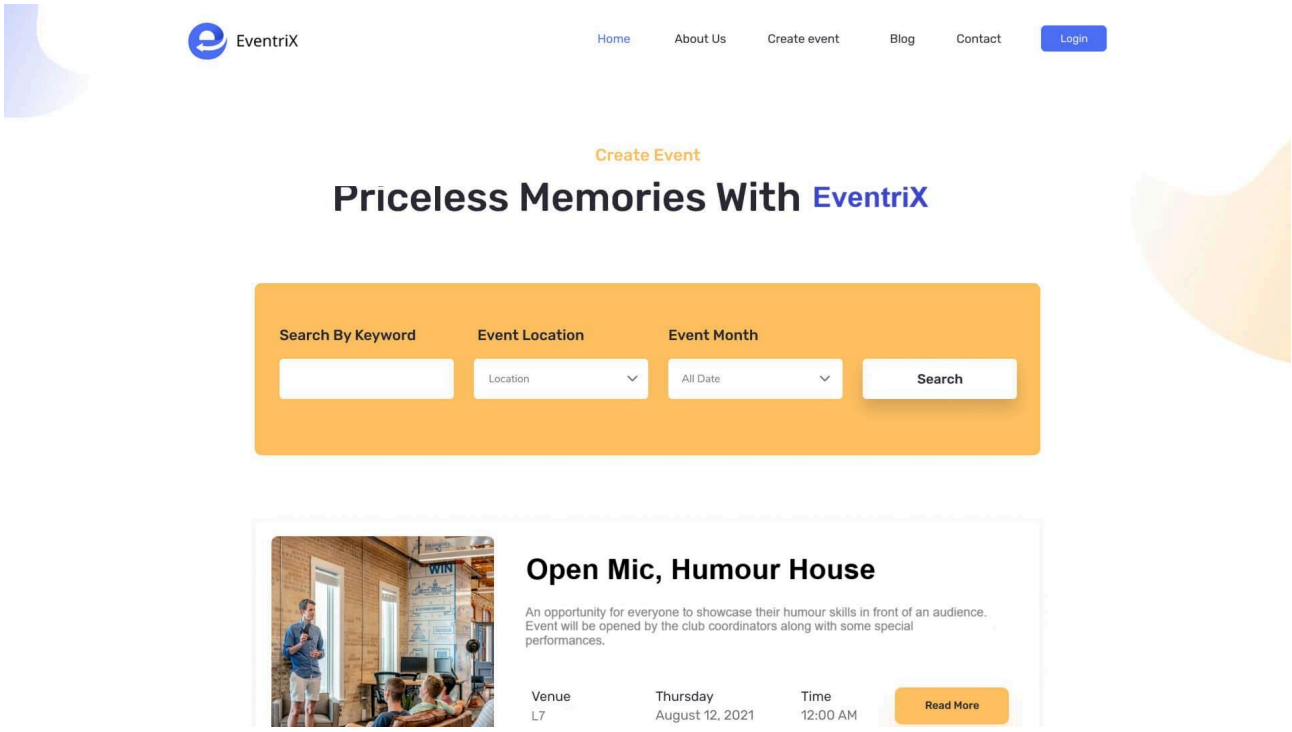
- Users can access the system through the website. They can browse and search for various events, clubs, and other details without needing to log in. However, to register for any event and receive notifications users must create an account using their IITK Email ID and log in.
- Once logged in, users gain access to additional features, such as event registration and notifications. Following are some of the web pages that allow users to explore the system's features, including searching for councils and their events, registering for events, and more.

(Following are some draft templates of the web page design)

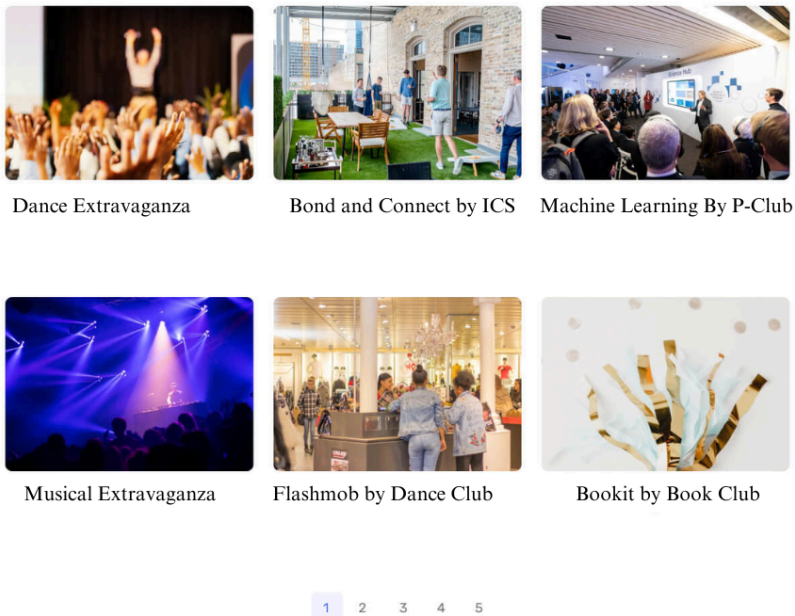
LOGIN/SIGN UP PAGE :-



HOME PAGE:-



CLUB'S EVENTS PAGE:-



Hardware Interfaces

- The software interacts with web servers to host the website and handle HTTP requests and responses for user interactions and data retrieval.
- Users will require a smartphone or computer that has internet access and need to use a web browser to access the user interface.
- The website relies on database servers to store and retrieve data. This includes information about clubs/teams and their events (upcoming, completed, and live), user (student) profile, images, past participation of the user, etc.

Software Interfaces

The software consists of three main components: the front-end, the back-end, and the database.

- The front end is the part of the application that users directly engage with. It includes all the visible aspects, including graphical elements, buttons, forms, and overall aesthetics.
- The back end handles server-side functionality, and application processes, and manages requests from the front end. It oversees data management and business logic, ensuring the application operates as expected.
- The database is the location where the application stores and retrieves information. It plays a vital role in maintaining user data, event information, and other essential details.

Functional Requirements

Users

3.2.1 User Registration:

- Students can register on the platform using a unique username and IITK email address.
- Users must set a secure password during registration. The password must be a composition of special characters, numbers, and letters.

3.2.2 Email Verification:

- The system will send an OTP to the user's registered IITK email address to ensure the security and authenticity of users. This ensures that only users with access to their official institutional email can authenticate, adding an extra layer of security and preventing unauthorized access.

- Only verified users who have completed the OTP verification process will be granted access to key platform features, such as event registration and receiving notifications. Unverified users will be restricted from accessing these functionalities, ensuring that legitimate users use the system exclusively.

3.2.3 User Verification:

- Only email addresses with the IITK domain (@iitk.ac.in) will be accepted for student registration. This ensures that only members of the college can access the platform. It prevents unauthorized users from registering and keeps the system secure.

- Organizers, like clubs and councils, will get unique usernames and temporary passwords from the admin team. After the first login, they can log in with these credentials and change their passwords. This ensures secure and personalized access for all organizers.

3.2.4 Event Browsing for All Users:

- All users, including students and guests, can view upcoming and trending events on the website without having to log in. This allows anyone to explore events easily, even without an account.

- Each event will display important details such as the event's title, location, timing, and a short description. This helps users quickly understand what the event is about and when and where it's happening.

3.2.5 Event Registration:

- Only students who are logged into the system can register for events. This ensures that only verified students can sign up and participate in events.

- The system will keep a record of all the events a student has registered for. This allows students to view and track the events they've signed up for in the past.

3.2.6 Club Subscriptions:

- Logged-in students can choose to subscribe to certain clubs or councils to get notifications only about their events. Students will receive updates on the events

that interest them the most. It helps them stay informed without getting too many notifications from other clubs or councils.

3.2.7 Search and Filters:

- The platform will have a search bar with filters like event type, club name, date, and location to help users find events they're interested in. Users can use these filters to narrow down the results to what suits them best. This makes it easier for users to find events that match their preferences.

3.2.8 Personal Calendar for Students:

- Logged-in students will have a personal calendar where they can see all the events they've registered for. This calendar will display both past and upcoming events. It helps students stay organized and aware of their event participation.

- Each event will be listed on the specific date it takes place, making it simple for students to find what's coming up next. The calendar layout will allow easy navigation.

3.2.9 General Calendar:

- The system will provide a general calendar that shows all events organized by different clubs and councils, available to all users without logging in. This calendar offers a broad view of upcoming and past events, helping users explore activities on the platform. Unlike the personal calendar, which is specific to each student's registered events, the general calendar lists all events open to everyone.

3.2.10 Organizer Login:

- Organizers will log in with a unique username and password given by the admin. This keeps their access secure and separate from regular users. Organizers can change this password after logging in.

- Organizers can provide an email address to get notifications about important updates, such as queries or restock requests. This ensures they don't miss any important information.

3.2.11 Organizer Dashboard:

- Organizers can view their upcoming events on their homepage. They can make any change if they want in their upcoming event such as venue change, or timing change.

- Organizers can view and update their club/event page and other initiatives they have taken in the event/club.

3.2.12 Event Scheduling for Organizers:

- Organizers will have the ability to create and schedule new events by filling in key details such as the event title, date, time, location, and a brief description. They will also select the relevant club or council name to associate the event with.

3.2.13 Notifications:

- Students will receive timely notifications for events they are registered for, subscribed to, or those relevant to their interests, ensuring they stay updated and don't miss important opportunities.

3.2.14 Security Features:

- All passwords will be encrypted and securely stored using strong methods. This makes sure passwords are protected and unreadable, even if the system is hacked. Salting will also be used to add extra security.

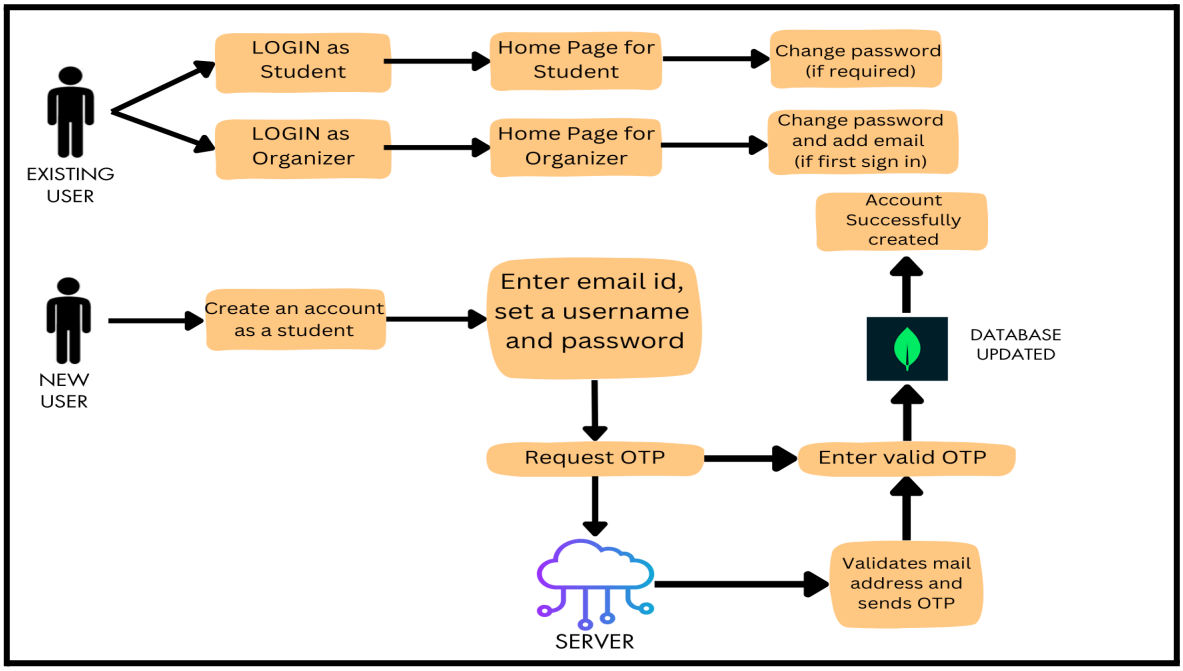
- The platform will use strong security measures to prevent unauthorized access, such as regular security checks and data encryption. Features like multi-factor authentication (MFA) will be used for extra protection, and the system will be monitored for any suspicious activity.

3.2.15 Help and Support:

- Both students and organizers will have access to a dedicated "Help and Support" section where they can find solutions to common problems and get assistance with any issues they face. This section will include frequently asked questions (FAQs), and guides to help users quickly resolve issues on their own.

Use Case Model:

❖ Use Case #1 (LOGIN and Create an ACCOUNT) :



Author – Team 3 (TechTroopers)

Purpose - This will show how a user can log in or create an account on the website.

Requirements Traceability – Profile page interface, signup, and login interface, user database.

Priority - High.

Preconditions - Must be a student or club/team/cell from IITK.

Postconditions - The user is logged in and ready to access additional features like registering for an event, notifications, personal calendars, and more.

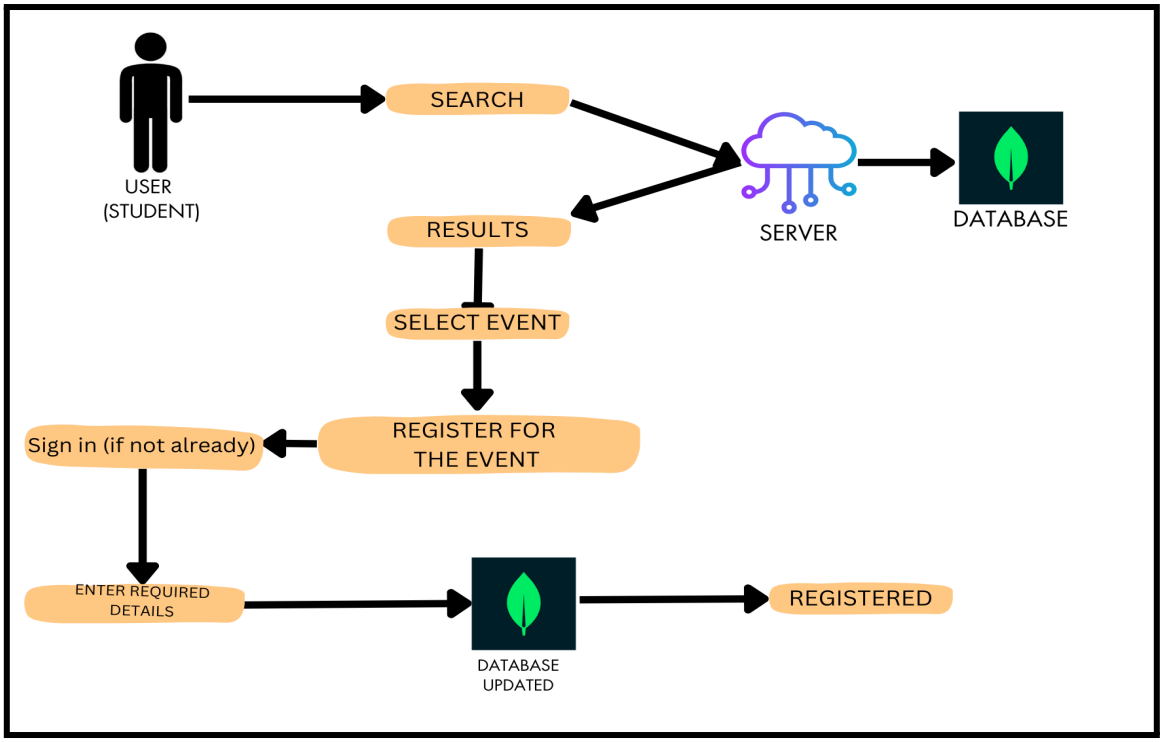
Actors – User of the website (Student or any Organization from IITK), Server.

Exceptions - Users may forget the password and go for the '**Forgot Password?**' option.

Includes - One Email can have only one account.

Notes/Issues - The user needs to enter some necessary details (Email, username, password).

❖ **Use Case #2(Register for an event)**



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Author – Team 3 (TechTroopers)

Purpose - This use case will show how a user can register/browse for the desired event.

Requirements Traceability – Profile page, user database, search interface.

Priority - High.

Preconditions - The user must have an account. The desired event must be uploaded by the respective organizer on the site.

Postconditions - The user is now registered for the event and has all the information about the location, time, and date of the event. The user will get notified about the event further if needed.

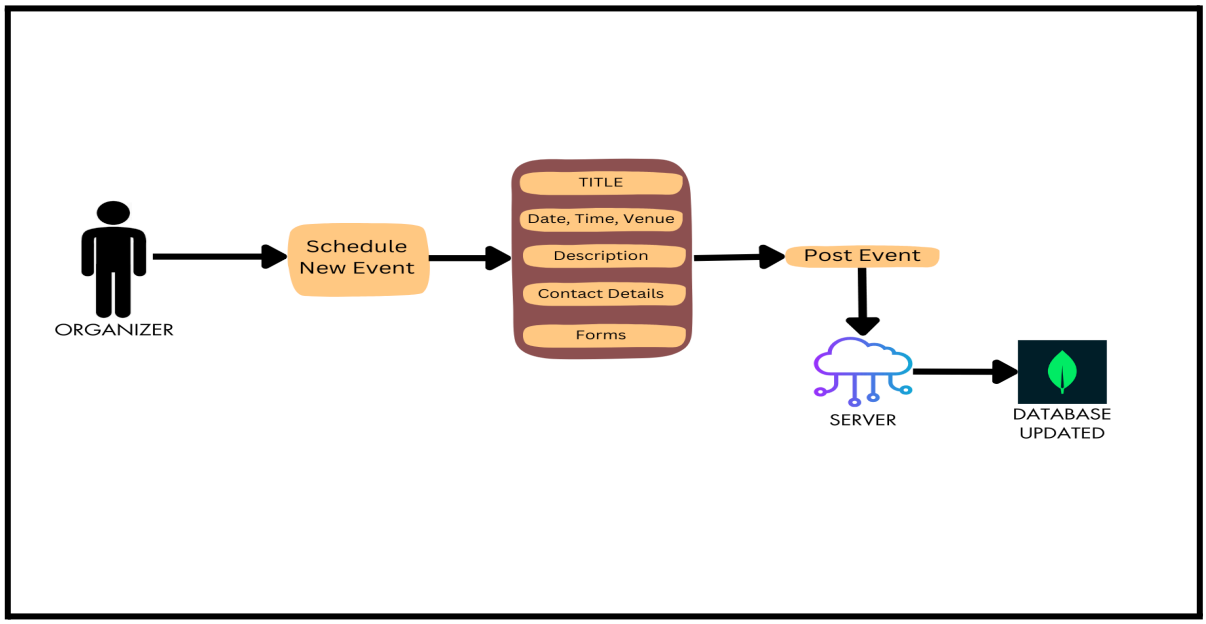
Actors – User of the website (Student or any Organization from IITK), Server.

Exceptions - Slots may be full due to which the user cannot register for the event or the event may get cancelled or postponed due to certain reasons.

Includes - Students must be able to contact the organizers in case of any inquiry.

Notes/Issues - The user may need to enter some personal details (Name, Roll no., Year, Department, etc.)

❖ **Use Case #3 (Schedule an Event) :**



Author – Team 3 (TechTroopers)

Purpose - This use case will show how a user (**Only Organizer**) can schedule an event.

Requirements Traceability – Organizer interface, database.

Priority - High. Users can search for an event only if it's scheduled.

Preconditions - Must have an account as an organizer.

Postconditions - The required event will be scheduled and made available for registration.

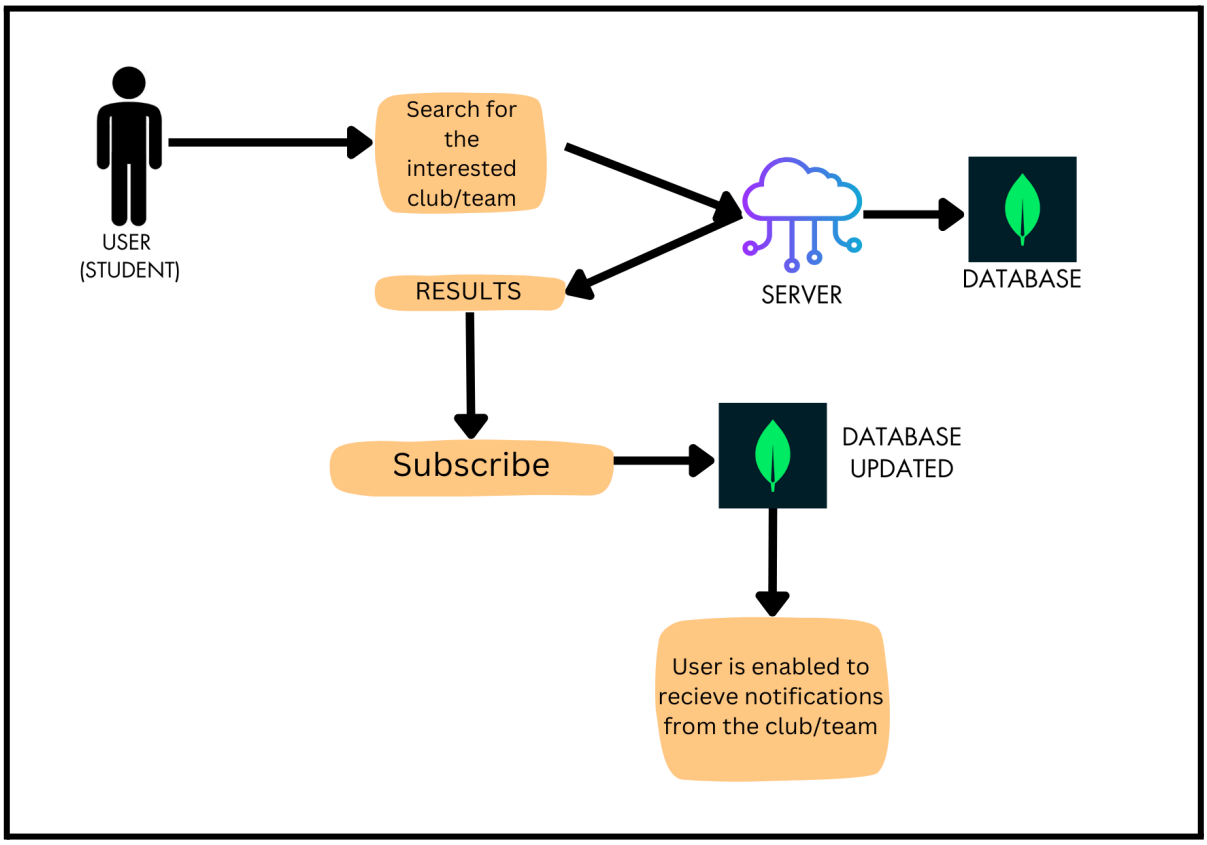
Actors – Organising Committee, Server.

Exceptions - Other events might be scheduled at the same time on that specific day.

Includes - None

Notes/Issues - The organizer needs to enter all the necessary details about the event.

❖ **Use Case #4 (Subscribe a club/team) :**



Author – Team 3 (TechTroopers)

Purpose - This use case will show how a user can subscribe to a club/team.

Requirements Traceability - Search interface, club interface, database.

Priority - Low.

Preconditions - The user must have an account. The desired club/team must have an account too.

Post conditions - The user is now subscribed to the club/team and will receive notifications about scheduled events and announcements made by the respective club/team.

Actors – User of the website (Student or any Organization from IITK), Server.

Exceptions - None

Includes (other use case IDs)

Notes/Issues - None

OTHER NON-FUNCTIONAL REQUIREMENTS

4.1 Performance Requirements

- **Response Time**: The software should respond to the majority of user requests in minimum time. The website should ensure fast page loading and a smooth registration process under all conditions.
- **Fast Data Upgradation:** Events published by clubs and societies should be visible to users in real time with minimal delay. Payment processing and inventory updates (for merchandise) must be reliable and efficient.
- **Maintainability**: The software should be free from any bugs and performance issues, ensuring smooth operation at all times. It should also be built to allow future updates and new features without affecting current functionality.
- **Scalability:** The software should efficiently handle heavy traffic during peak events, ensuring smooth performance even with a large number of users. It must remain stable and fully operational under high load conditions, preventing crashes or delays.
- **Accessibility:** The software should be accessible from all devices and should dynamically adapt to the user's requirements, ensuring a seamless and responsive experience.
- **Compatibility:** The software should work seamlessly on all major web browsers, such as Chrome, Mozilla Firefox, Brave, Edge, and Safari. It must provide a consistent user experience across different browser versions, avoiding any visual or functional issues.

4.2 Safety and Security Requirements

- **Password Policies and Safety:** The platform will enforce strong password requirements, including a mix of characters and symbols, to enhance account security. Passwords will be protected using secure hashing and salting techniques to prevent unauthorized access.
- **Authentication:** All users should be authenticated using their IITK Email at the time of registration to ensure unique identification. This will be done by sending a one-time password (OTP) to the user's IITK Email for an extra layer of verification, ensuring that only legitimate users gain access.

- **Authorization:** Access to the admin panel for event publishing and editing will be restricted to authorized users. Each user will have role-based permissions, ensuring that only coordinators can manage event content. The system will verify user roles upon login, restricting access to sensitive features for unauthorized users.

- **Defence Safety Protocols:** The software must be fully protected against vulnerabilities, such as injection attacks, which could compromise its security. Measures will include input validation, the use of parameterized queries, and output encoding to prevent malicious data from being executed.

4.3 Software Quality Attributes

4.3.1 Usability

- The front end of the software is designed to be user-friendly such that users can utilize the system effectively.

- The interface should have a clean design with clear labels and intuitive menus. Users should easily find event schedules, registration options, and other features.

- It will be based on the well-known principle of usability - Keep It Simple and Stupid.

4.3.2 Flexibility :

- Flexibility means the software's ability to easily adjust to changes, whether in features, system needs, or user requirements, without affecting its overall structure or performance. For our software, this means being able to add new features, update existing ones, or change how the system works with minimal effort and without causing issues.

  - **Modular Architecture**:

    - The software should be designed using a modular architecture, enabling independent components (e.g., event calendar, payment system, merchandise module) to be added, modified, or replaced without affecting the entire system

  - **Configurable Workflows**:

    - The system should support configurable workflows, such as allowing clubs to set custom registration requirements.

4.3.3 Maintainability:

- The software should be designed for easy updates, enhancements, and troubleshooting over time.
- The codebase must be modular and well-documented to allow developers to quickly understand, modify, and extend functionality.
- Clear version control practices should be followed to track changes and facilitate collaboration.

4.3.4 Availability:

- The software should handle peak usage periods, such as during major event announcements, without performance degradation or downtime.
- Essential features, including event uploads, user notifications, and search functionalities, must remain operational at all times.
- The system must achieve a high uptime, ensuring minimal service interruptions.

4.3.5 Reliability:

- Reliability means the system's ability to work consistently and provide accurate results without fail, even in different situations. For the event management website, this means ensuring the platform runs smoothly, displays correct information, and handles all tasks properly, no matter the conditions.
  - **Error Handling**:
    - The system should handle unexpected errors or failures smoothly, showing clear and helpful error messages to users. It should make sure that important features, like event registrations and payments, continue to work without any interruptions
  - **Data Accuracy and Consistency**:
    - All data displayed to users, such as event details, registration statuses, and merchandise availability, must be accurate and up to date. Consistency must be maintained across the platform, even in cases of concurrent updates.

Appendix A – Data Dictionary

Variable (Entity)	Description	Data Type	Possible Value/States	Related Operations
User	Represents a user of the system, including students and organizers.	Entity/Object	-Students -Organizers -Visitors	-Registration -Login -Event registration
Username	The unique identifier for each user.	String	Alphanumeric(e.g., user123)	-Registration -Login -Profile access
Password	The secure password set by the user during registration.	String(Hashed)	Must include letters, numbers and special characters	-Password validation -Authentication
Email	The email address used for user authentication.	String	Valid IITK email domain (e.g., username@iitk.ac.in)	-Registration -OTP verification
OTP	One-time password for email verification	Integer	6-digit numeric code	-Email verification process
Event	Represents an event or workshop managed on the platform.	Entity/Object	-Title -Date -Time -Location -Description	-Event creation -Scheduling -Updates
Event Type	Type/Category of the event.	Enum	-Workshop -Competition -Festival	-Search -Filtering
Event Status	The current state of the event.	Enum	-Upcoming -Live -Completed	-Display in calendars -Notifications
Club	Represents campus clubs and councils that organize events.	Entity/Object	Names of clubs(e.g., Dance Club, Music Club, etc)	-Event management -Notifications

Subscription	Tracks users subscribed to specific clubs or councils.	Entity/Object	Club or council name associated with a user.	-Send notifications -Subscription management
Personal Calendar	Tracks events registered by a specific user.	Entity/Object	List of registered events with date and time	-Display -Updates -Notifications
General Calendar	Displays all events organized by clubs and councils.	Entity/Object	List of all events	-Display -Filtering
Notification	Real-time alerts sent to users about events or updates.	String	Notification message content	-Event creation -Updates -Scheduling
Payment	Represents payment transactions for event registrations.	Entity/Object	-Payment ID -Amount -Status	-Payment processing -Confirmation
Help and Support	Provides FAQs and support resources for users.	String	Predefined help topics and queries	-User interaction -Query resolution
Organizer Dashboard	A dashboard for organizers to manage their events and clubs.	Entity/Object	Includes event details, club data, and update options	-Event creation -Updates - Scheduling
Search Filters	Parameters for filtering event results.	String/Enum	-Event type -Date -Club name -Location	-Search and display of events
Authentication Token	Token issued after a successful login for session management.	String	Unique session identifier	-User authentication -Session handling
System Logs	Tracks system activity for debugging and monitoring.	String	Timestamped logs of actions taken by users and the system	-Security monitoring -Audit trail
Database	Central repository for storing user, event, and system data.	Entity/Object	Tables for users, events, subscriptions, payments, and notifications	-CRUD operations -Data retrieval and updates

Appendix B - Group Log

SL.NO	Date	Timing	Discussion	Venue
1.	8th Jan	5:00 PM	Discussed related to the project idea.	RM Building
2.	10th Jan	6:30 PM	Met Professor and discussed the project idea.	KD Building
3.	13th Jan	6:30 PM	Discussed the project idea and software tools and frameworks.	RM Building
4.	16th Jan	1:00 PM	Discussed related to the division of the project work.	L19
5.	20th Jan	1:00 PM	Discussed about the design of the website and basic interface.	L19
6.	23rd Jan	6:30 PM	Reviewed the entire document and made some changes.	CCD
7.	24th Jan	4:00 PM	Had an Online meeting with the TA for some final changes.	Google Meet