Project Report

for

Event Management System

Prepared by

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Course:	**CS3002D Database Management Systems**
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1. Abstract

The Event Management System for NITC is a web application intended to convey the student fraternity of the campus regarding all the scheduled events. This application is mainly intended for the student community all well as the Event Organising groups of the National Institute of Technology Calicut (NITC).

The event management system helps the organizers of the events to easily host events and track the participation of their respective events.

The event management system enables the Event Organizer with a full stack Event Management System to host events up for registration and allows them to have complete participant information in digital formats. This will also enable them to keep in loop with the reviews posted by the users.

For the User (here the student community), this will provide them with the most up to date event information hosted in the campus and register seamlessly. They can also post and view the reviews of other fellow students regarding an event.

We felt that our college lacked a full stack Event Management System in our college for all the club activities which is a regular feature of our mundane college lives. We have exclusive ones for our fests Tathva and Ragam, but we felt the need for one for Regular Activities in college too.

With our EMS, an organizer can host a variety of types of events and even allows organizers to collaborate with each other easily, and view the schedules of other events and schedule their events accordingly.

2. Introduction

This Event Management System application (EMS) is designed for NITC and this software is a web based application and is a self-contained product, it is not a component of any other program and is basically intended for EMS. Our application's data is stored in MySQL Server which can be accessed by the Developer or Database Administrator (DBA) and retrieved in the required format by the Client (here the Event Organizers).

The data is stored in a database running on MySQL Server. A database is typically designed so that it is easy to store and access information. A good database is crucial to any company or organisation. This is because the database stores all the pertinent details about the EMS such as event details, student records, registrant details for an event etc. It converts logical or the conceptual data to physical storage constructs. It is the organization of data according to the database model. The data hosted in the database is organized and thereby one can grasp the gist and flow of the Model just by looking at the conceptual model.

The Relational Database Schema was constructed from the conceptual model by following the rules for converting ER -> RDB. The relations were further normalized to reduce data redundancy and remove partial and transitive functional dependencies. The methods followed were 1NF, 2NF, and 3NF to implement this. As of now, all relations in the database are in 3NF.

The web application is built in such a way that, it

- Provides a secure database of stakeholders containing the login credentials and personal information.
- Facilitates a step-by-step process of entering, organizing, retrieving, modifying and deleting the data.
- Provide administrative access to the clients.
- Add and delete client access easily.
- Easily append an event to the database.
- Provide an ordered list of events added to the database for easy understandability.
- Simple Interface for easy and reliable interactivity.

3. Project Objectives

The Event management System for NITC is a web based application to facilitate an easy and seamless platform to unify the processes of registration, advertising and tracking of all the events conducted in NITC. The main objectives of the Event Management System are

- This project enables all the Department Associations like CSEA, MEA, Technical & Cultural Clubs, and Social Initiatives like NSS to post all their events on a unified platform for students to view.
- The organizing teams of the respective events are the biggest benefactors, as the word of their event reaches out to the entire student community.
- This enables the organizing team to schedule the event accordingly, in order to avoid clashes between two events.
- The organizing team can post their event with the required details, and the event will be open to the students to register.
- Students can easily view and register for the event of their choice.

4. Background and Motivation

There is a lack of consolidated platform for hosting, organizing and tracking the events that are conducted at the club level in NITC. There is also a shortage of a platform which helps the event organizers to schedule an event so that it does not interfere with the events conducted by other organizers.

Many events in NITC are conducted at the same time. Due to this reason many students will not be able to attend both the events at the same time. There is also lack of a platform that helps the organizers to keep track of the number of registrants or count of the number of students attending the event. Along with this, there is no provision to know about all the events being conducted in the institute.

To tackle all the issues, the Event Management System for NITC has been built. This web application solves all the above problems.

It provides a platform for the students to know about all the events going on in the institute. The organizers can keep track of the events in the institute and schedule the events accordingly so that no two events affect each other. They can also get a clear idea of the

number of registrants so that necessary arrangements can be made for the event. They can also get the list of the registrants easily for any use.

5. Literature Survey

Website	Reviews
https://getbootstrap.com/	Improvement of user interface and to make a responsive website.
https://www.w3schools.com/	Reference for Syntaxes of Various elements of web development.
Fundamentals of Database Systems, 7/e, Pearson Education, 2016	Book by Ramez Elmasri for core database concepts.

6. System Requirements

- Front end development requires HTML, CSS
- Back end Interfacing using PHP
- Database Setup using MySQL
- Framework using Bootstrap
- A cross platform web server solution like XAMPP

MySQL	MySQL is an open-source relational database management system
PHP	PHP is a general purpose programming language originally designed for web development
HTML	HTML is the standard markup language for documents designed to be displayed in a web browser
CSS	CSS defines rules in seperate CSS files
Bootstrap	Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development

Xampp/ Mamp/ Wamp	These are free and open-source cross-platform web server solution stack package.

7. E-R Diagram

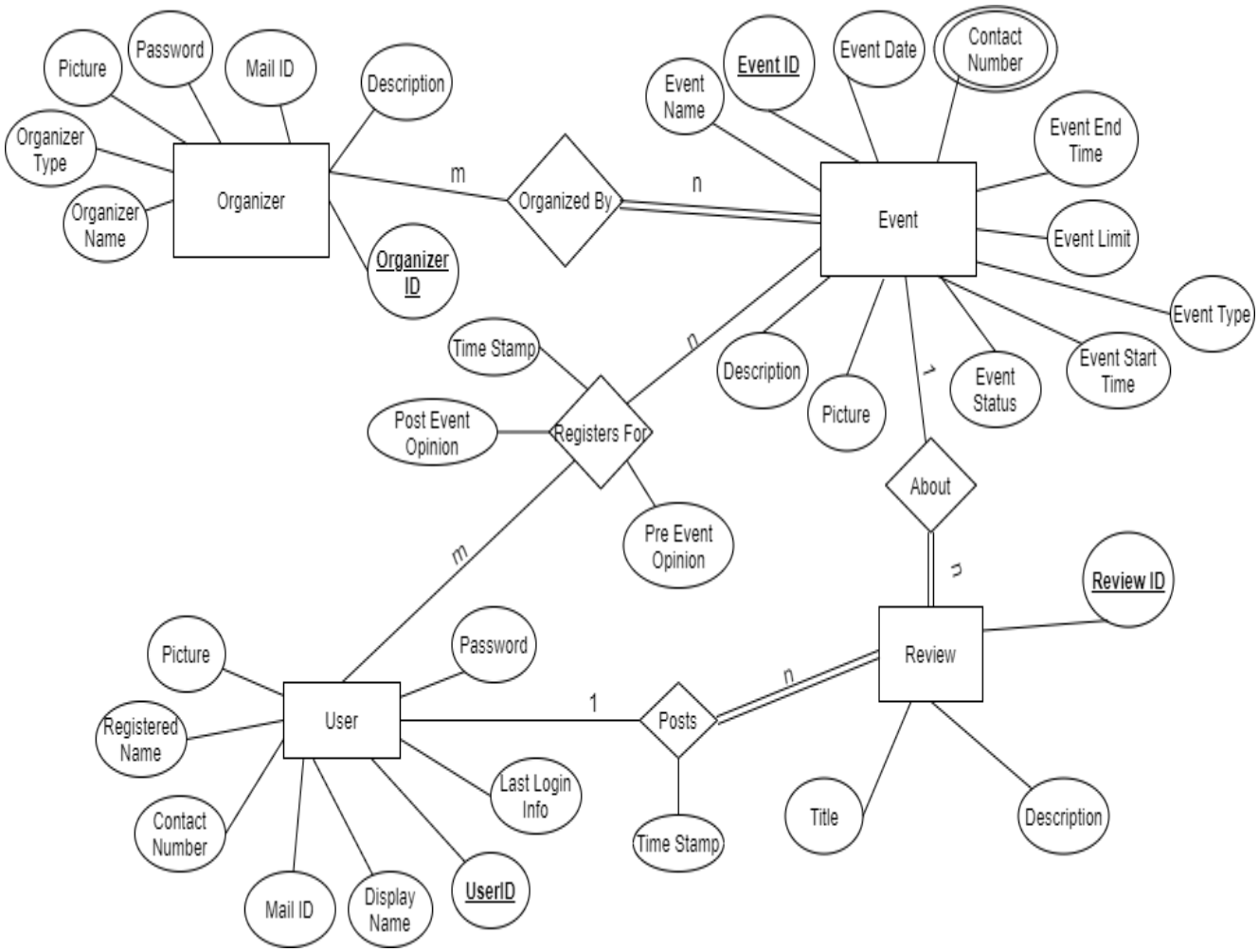


Figure 7 ER Diagram

8. Relational Database Design

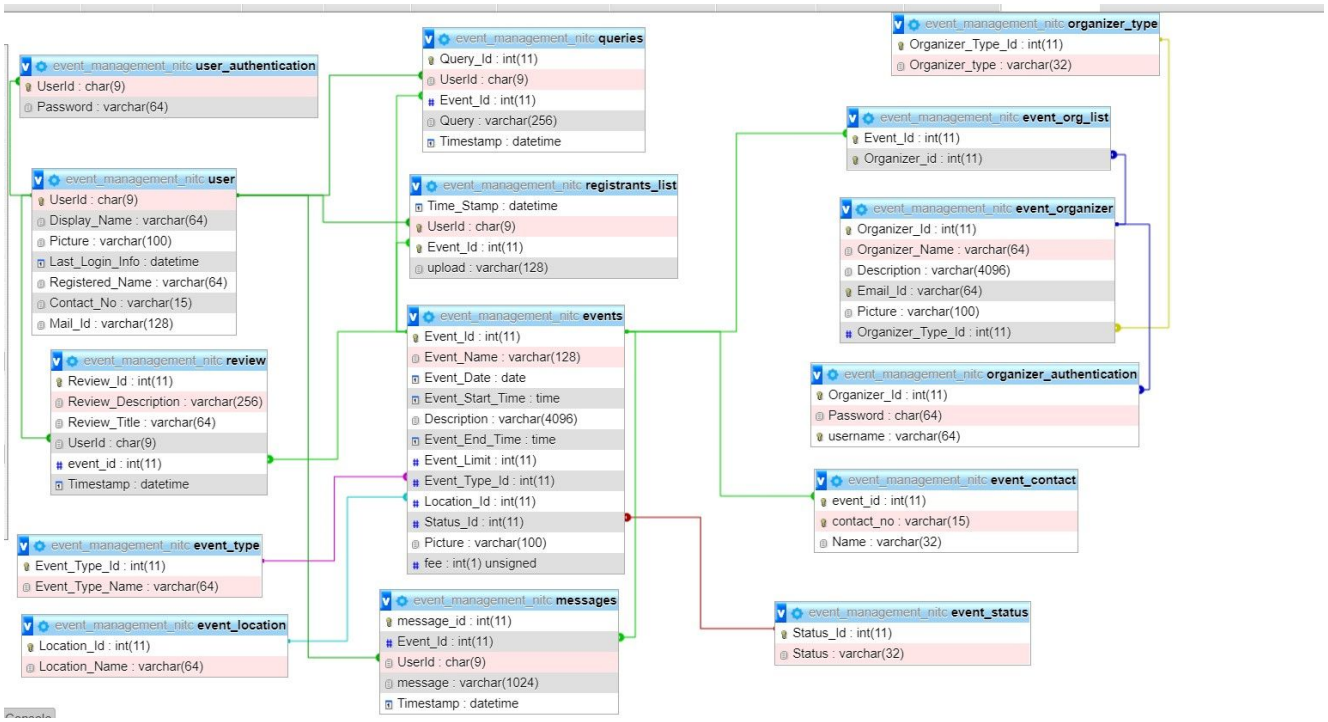


Figure 8 RDBMS Diagram

9. Database Normalization

A Database has to be normalized to reduce redundancies and avoid any anomalies due to insertion, deletion, and updation. Normalization of the database has reduced the size of each table from a large universal table. This also takes care of necessary things like the lossless join and preservation of dependencies.

All the tables in the Database are normalized to 3NF.

1NF normalization:

All the attributes in all the tables are atomic and do not have multiple values.

2NF normalization:

The database is in 1NF and the partial dependencies are avoided and eliminated if present.

3NF normalization:

All the transitive dependencies leading to the violation if the 3NF normal form are eliminated adding extra tables.

10. Graphical User Interface

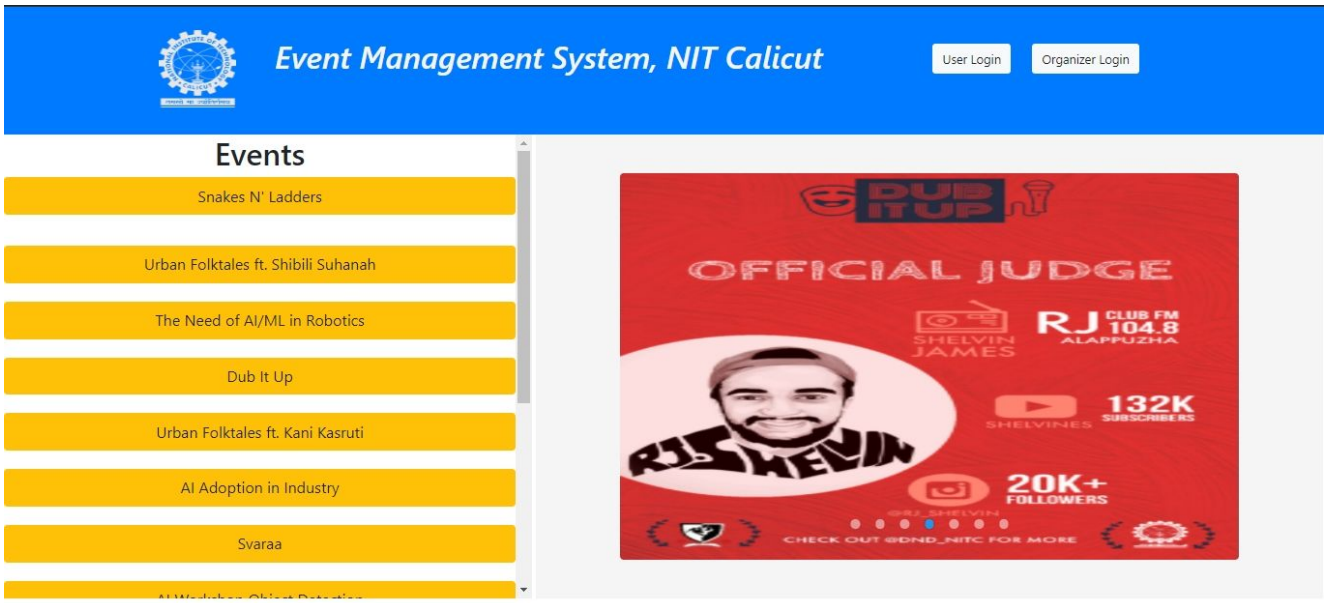


Figure 10.1 Homepage of EMS

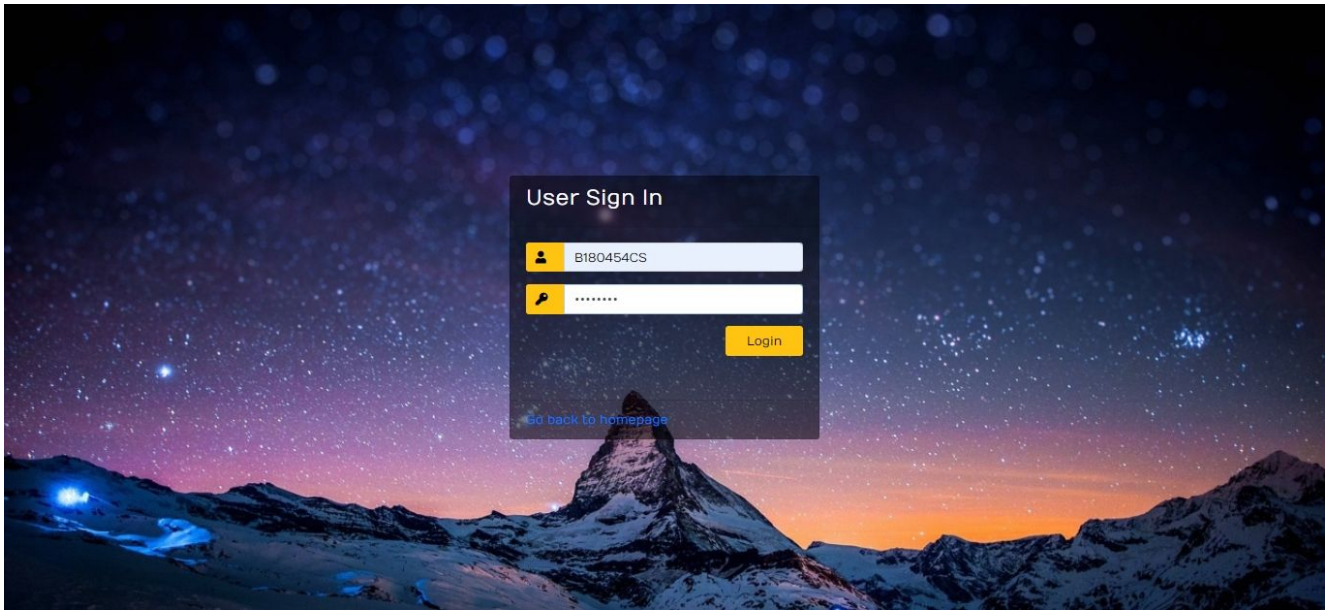


Figure 10.2 User Login of EMS (Organizer Login is a Similar Page and is different from User Login)

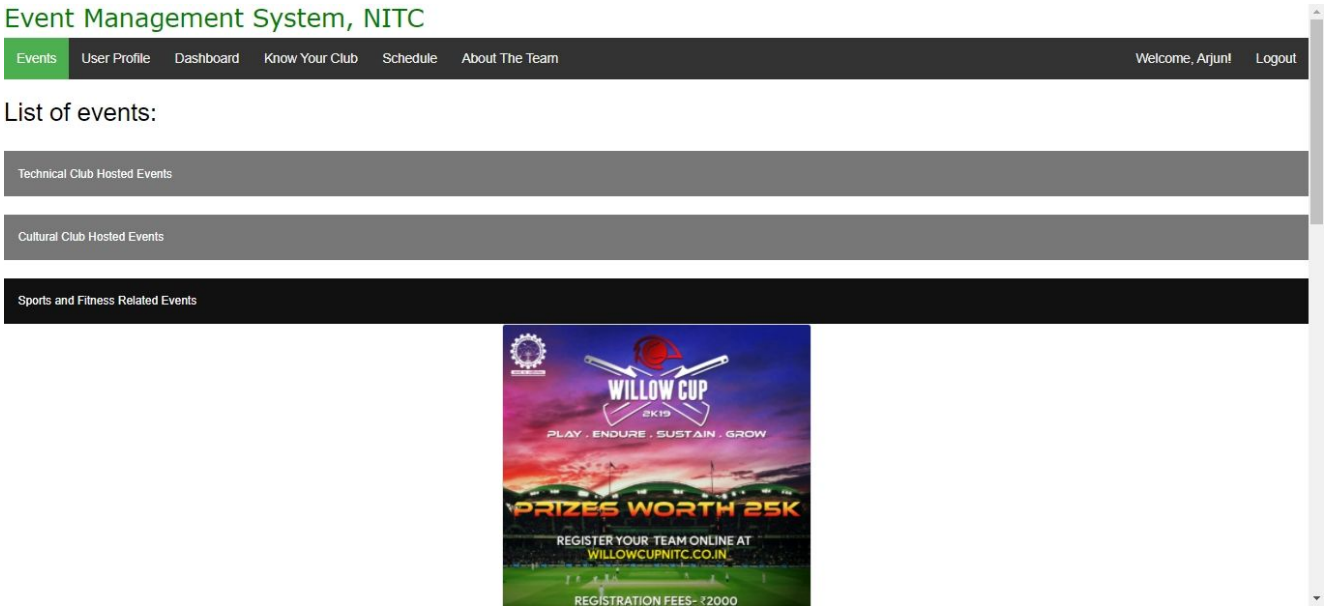


Figure 10.3 Events Dashboard (View of all Available Events)

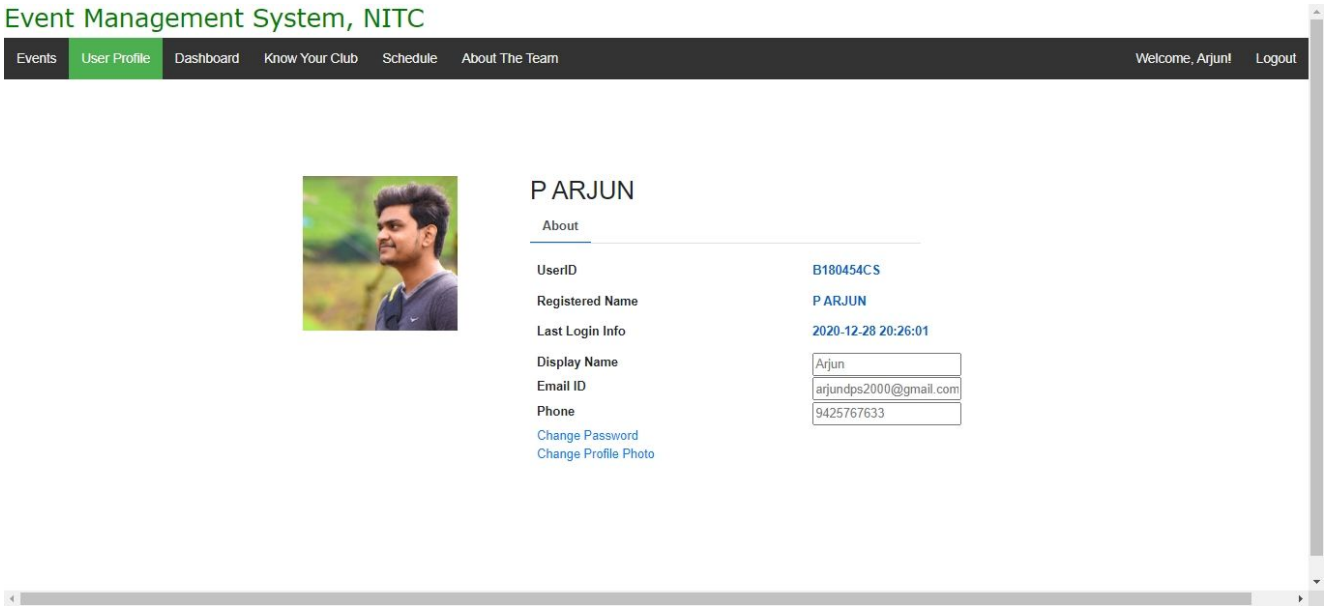


Figure 10.4 Profile Edit of User

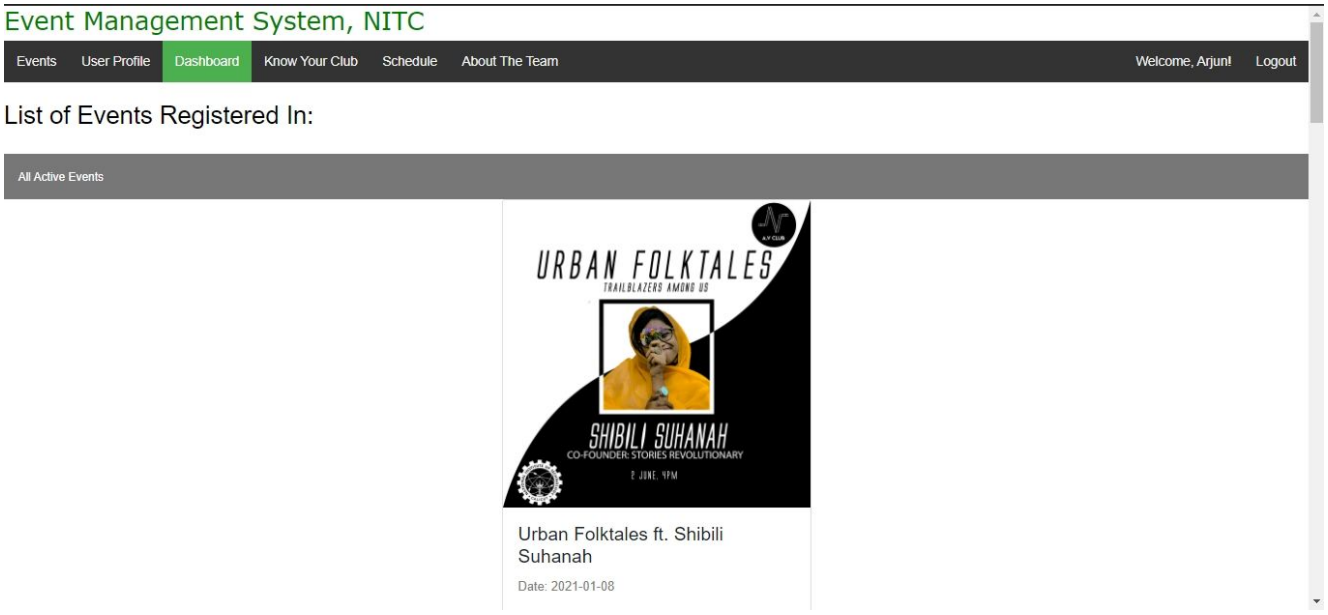


Figure 10.5 Registered Event Dashboard of User

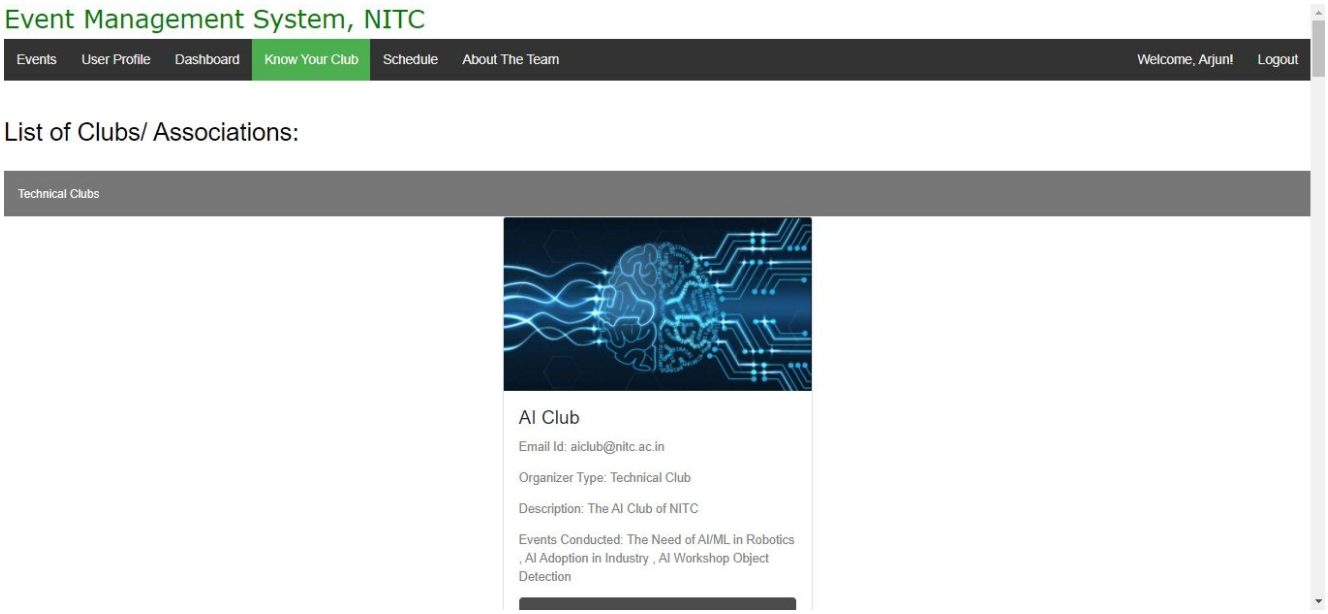
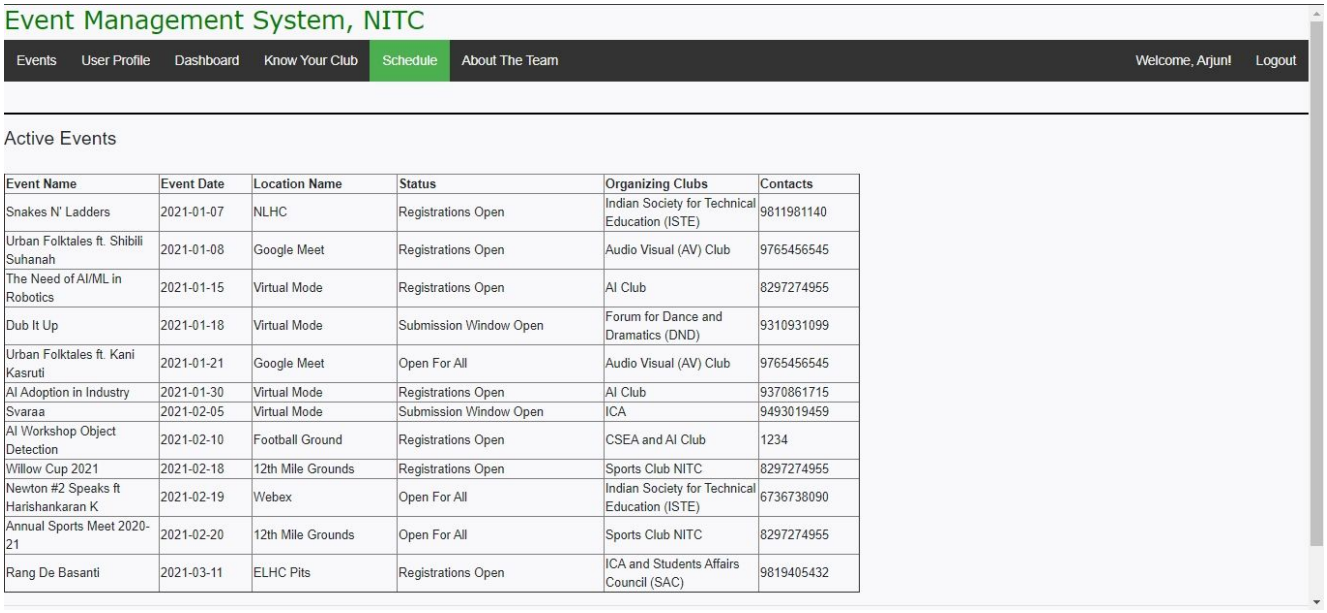


Figure 10.6 Know Your Club in EMS



Event Name	Event Date	Location Name	Status	Organizing Clubs	Contacts
Snakes N' Ladders	2021-01-07	NLHC	Registrations Open	Indian Society for Technical Education (ISTE)	9811981140
Urban Folktales ft. Shibili Suhanah	2021-01-08	Google Meet	Registrations Open	Audio Visual (AV) Club	9765456545
The Need of AI/ML in Robotics	2021-01-15	Virtual Mode	Registrations Open	AI Club	8297274955
Dub It Up	2021-01-18	Virtual Mode	Submission Window Open	Forum for Dance and Dramatics (DND)	9310931099
Urban Folktales ft. Kani Kasruti	2021-01-21	Google Meet	Open For All	Audio Visual (AV) Club	9765456545
AI Adoption in Industry	2021-01-30	Virtual Mode	Registrations Open	AI Club	9370861715
Svaraa	2021-02-05	Virtual Mode	Submission Window Open	ICA	9493019459
AI Workshop Object Detection	2021-02-10	Football Ground	Registrations Open	CSEA and AI Club	1234
Willow Cup 2021	2021-02-18	12th Mile Grounds	Registrations Open	Sports Club NITC	8297274955
Newton #2 Speaks ft Harishankaran K	2021-02-19	Webex	Open For All	Indian Society for Technical Education (ISTE)	6736738090
Annual Sports Meet 2020-21	2021-02-20	12th Mile Grounds	Open For All	Sports Club NITC	8297274955
Rang De Basanti	2021-03-11	ELHC Pits	Registrations Open	ICA and Students Affairs Council (SAC)	9819405432

Figure 10.7 Schedule of Events in EMS

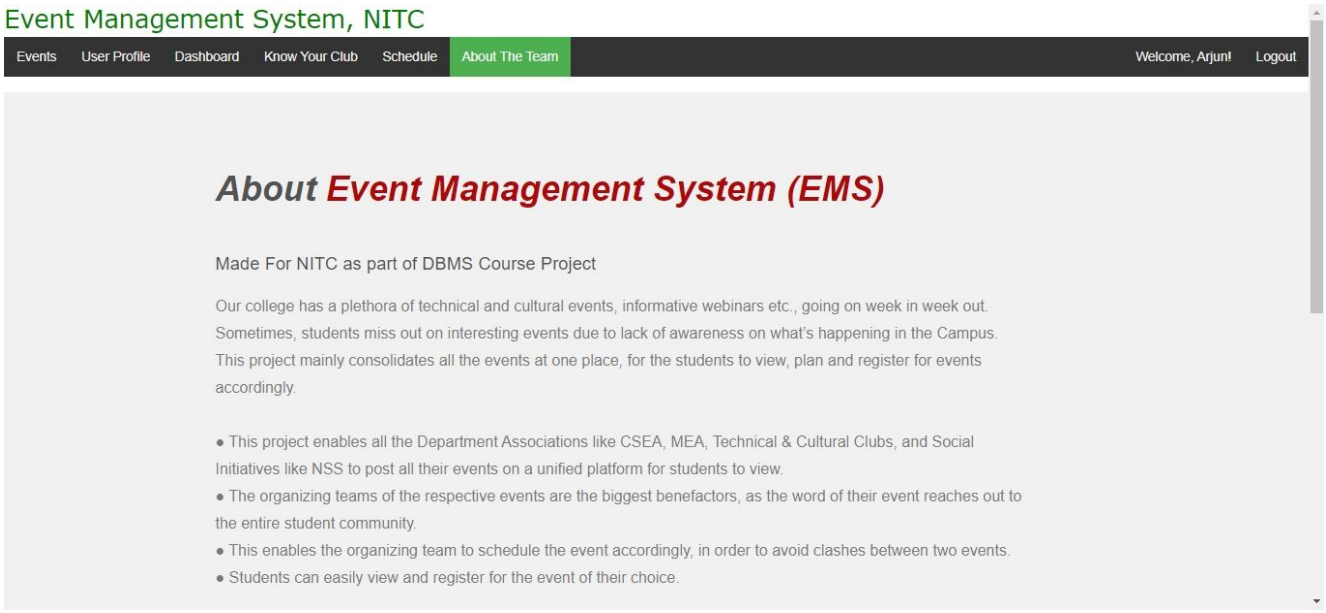


Figure 10.8 About Page of EMS

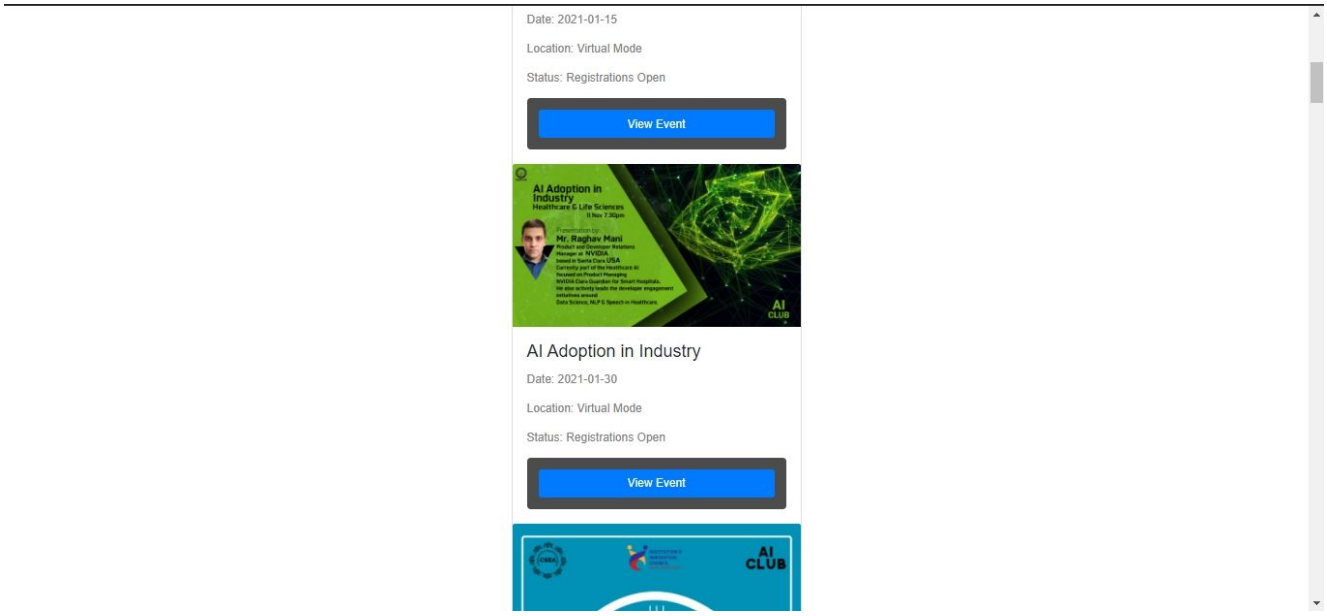


Figure 10.9 Available Events Page of EMS from User's Perspective

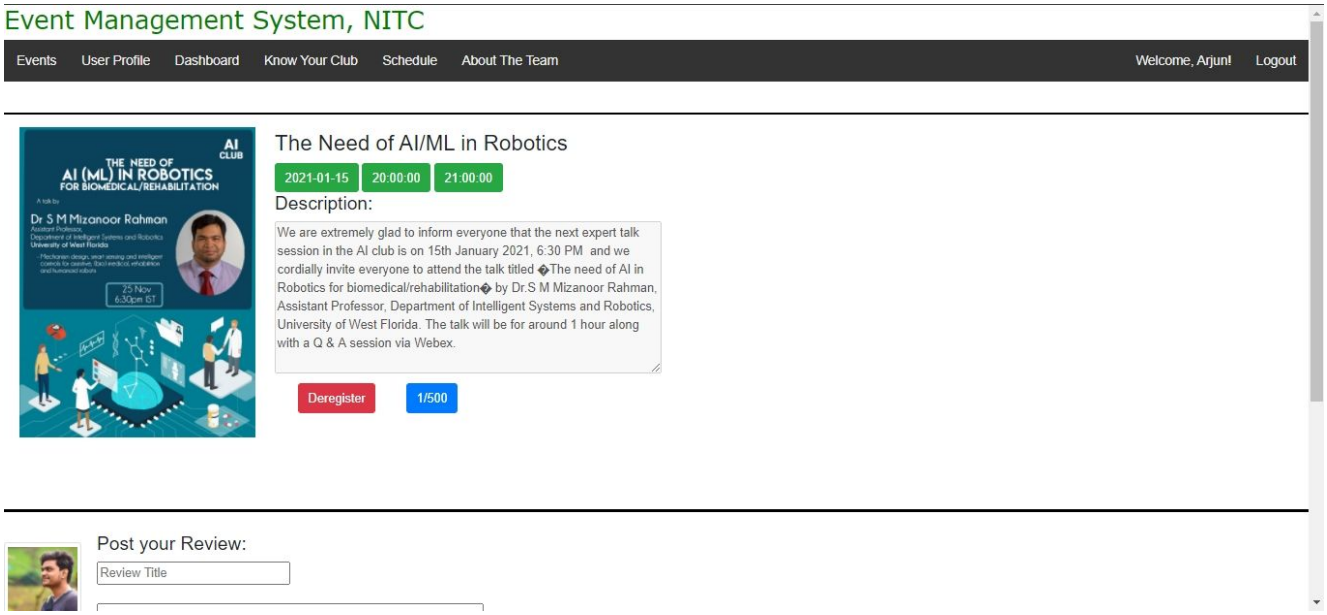


Figure 10.10 Register in an Event Page of EMS of a User with Review Posting and Viewing below

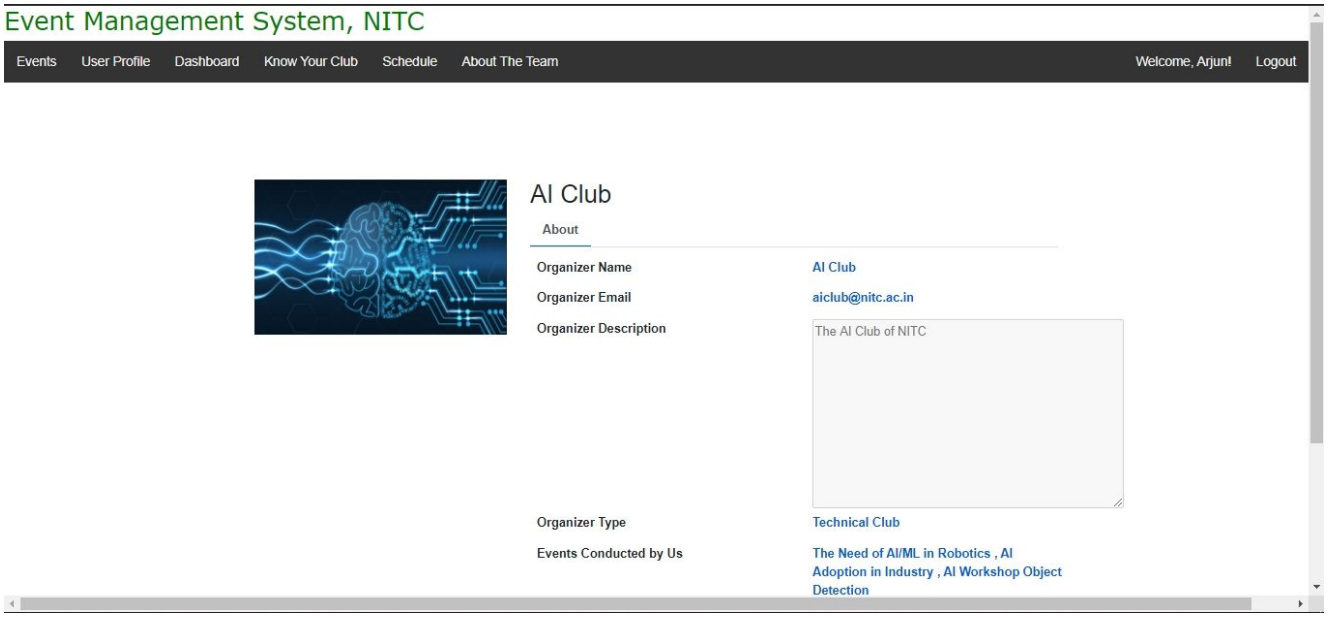


Figure 10.11 Club Profile Page in EMS

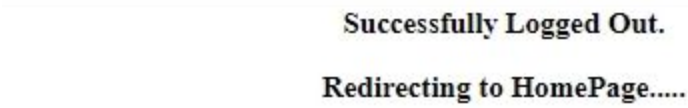


Figure 10.12 When You Logging off Page of EMS

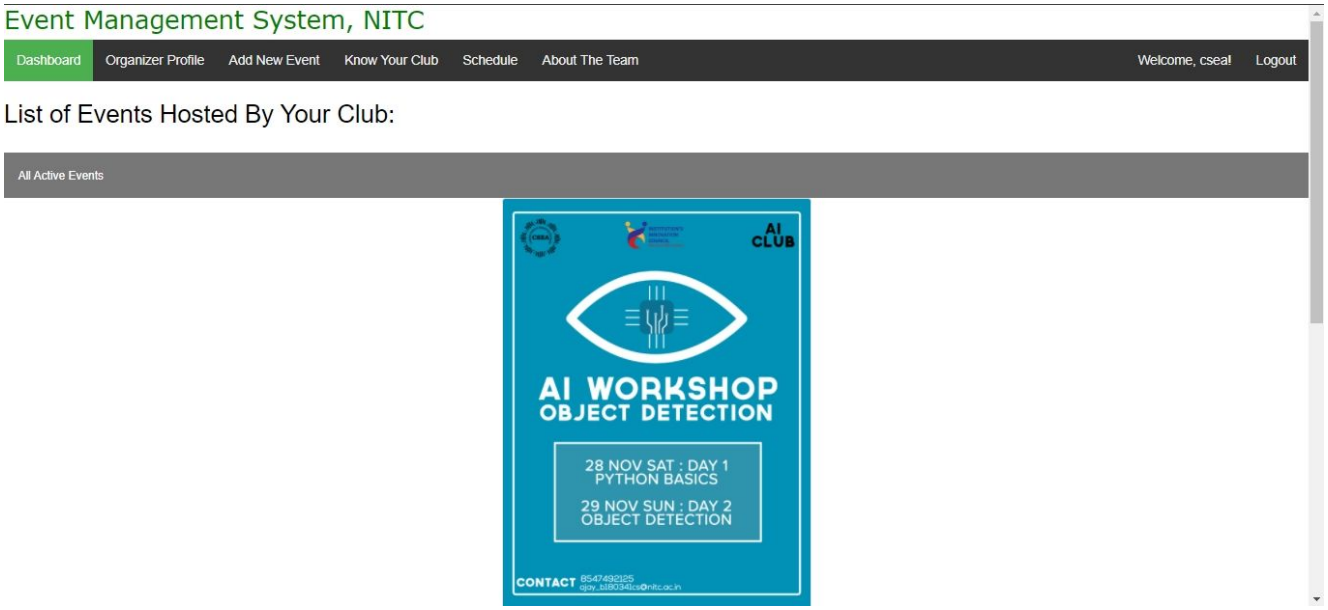


Figure 10.13 Dashboard Page of Organizer in EMS

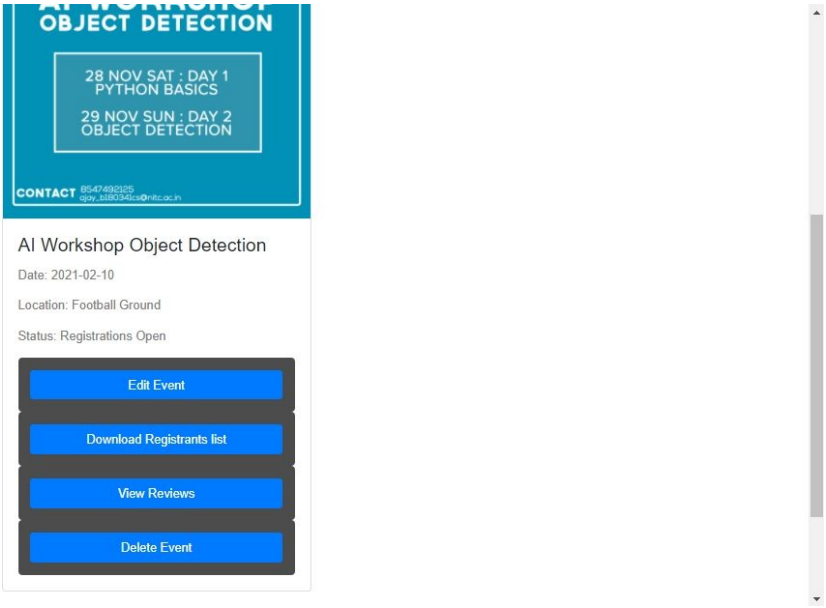


Figure 10.14 Dashboard Page Picture 2 of Organizer in EMS

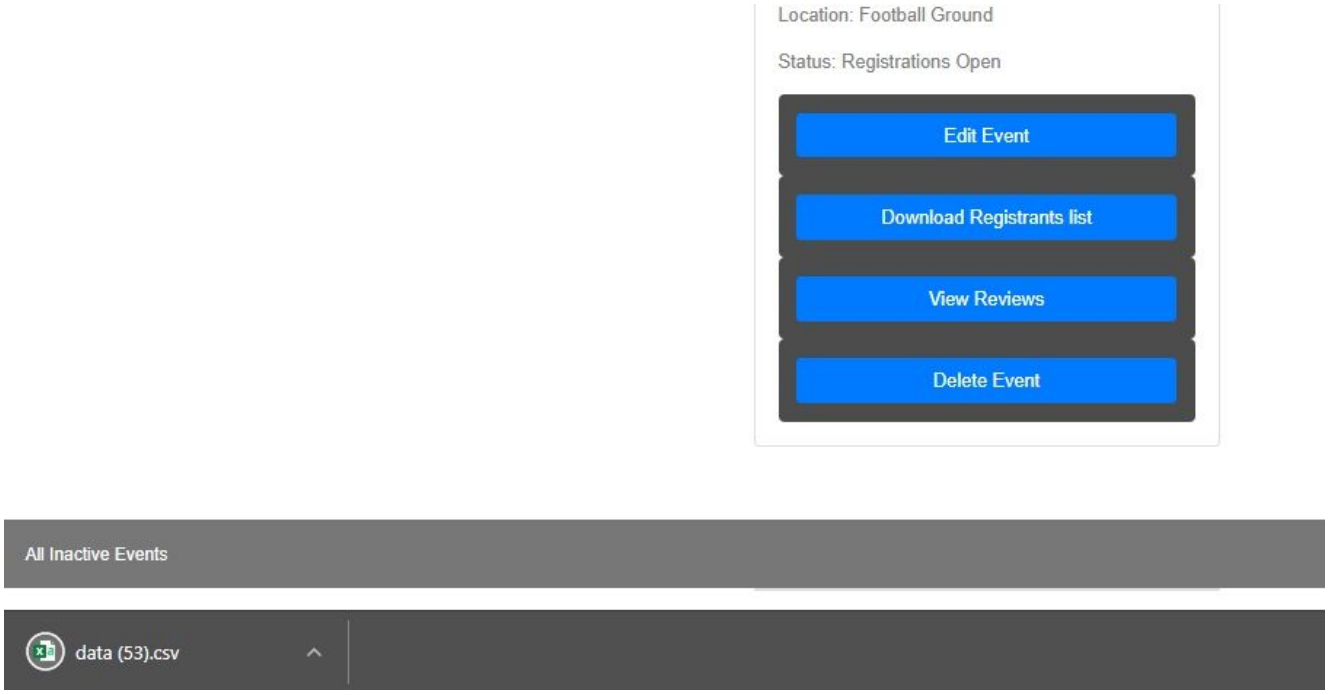


Figure 10.15 Downloading Registrants of Event from Organizer in EMS

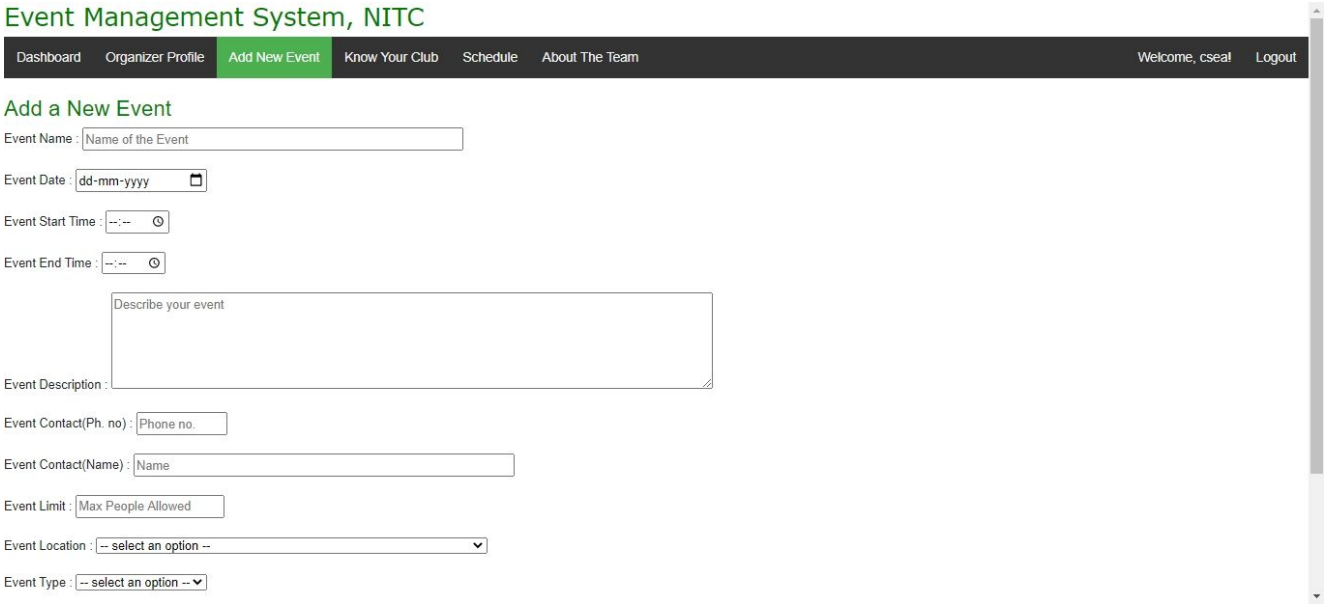


Figure 10.16 Add new Event (by Organizer) of EMS

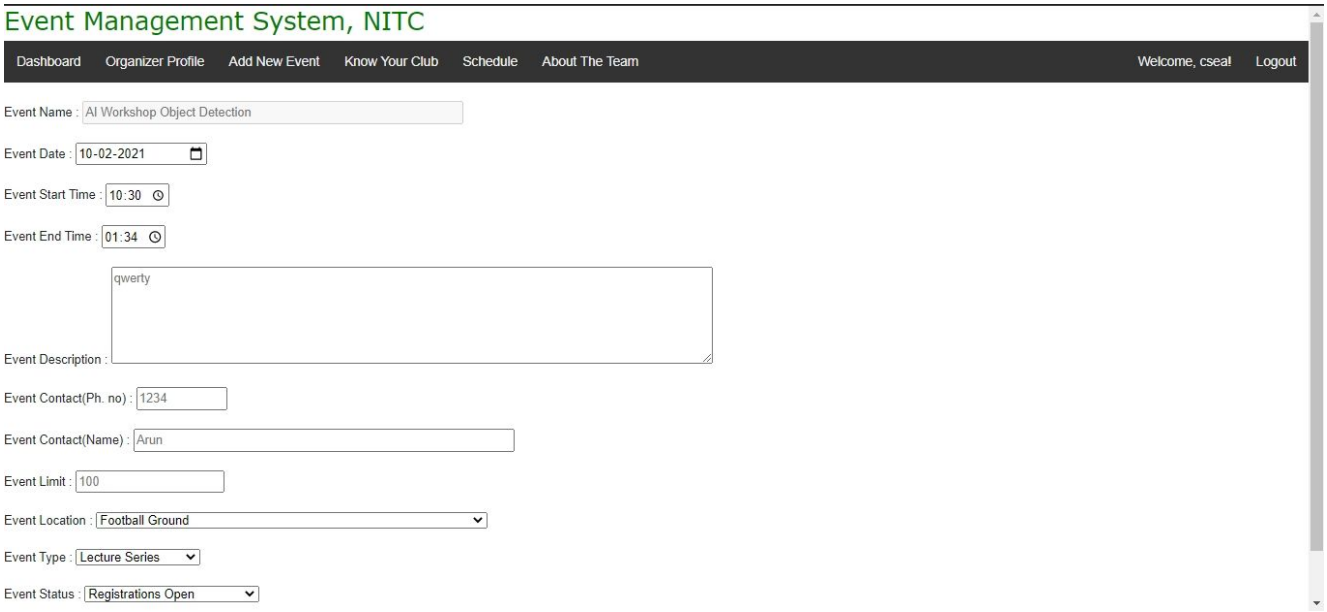


Figure 10.17 Edit an Event (by Organizer) of EMS

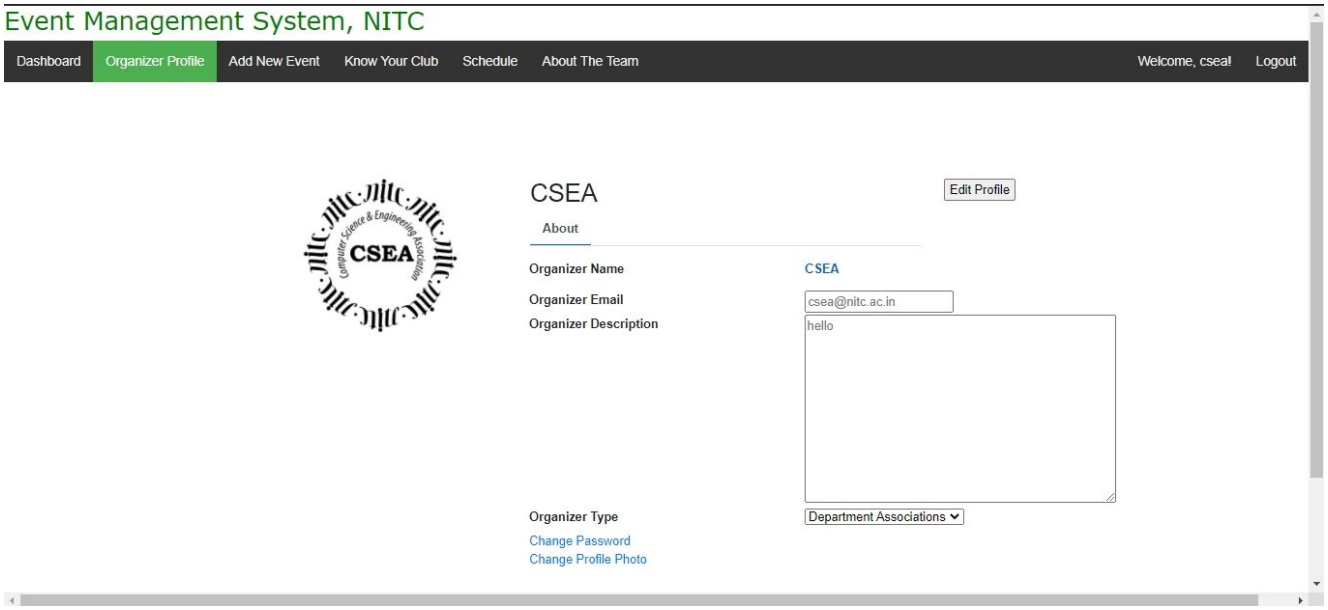


Figure 10.18 Edit Profile (by Organizer) of EM

Figure 10.19 View Reviews Page of Particular Event by Organizer in EMS

Figure 10.20 Dashboard/ Homepage of DBA in EMS

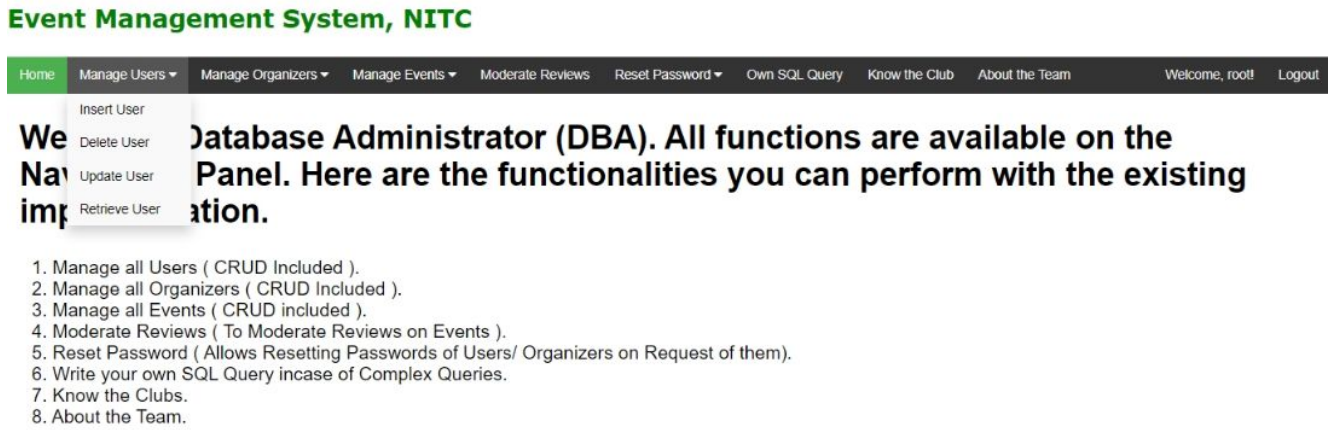


Figure 10.21 CRUD Operations of User Management by DBA in EMS

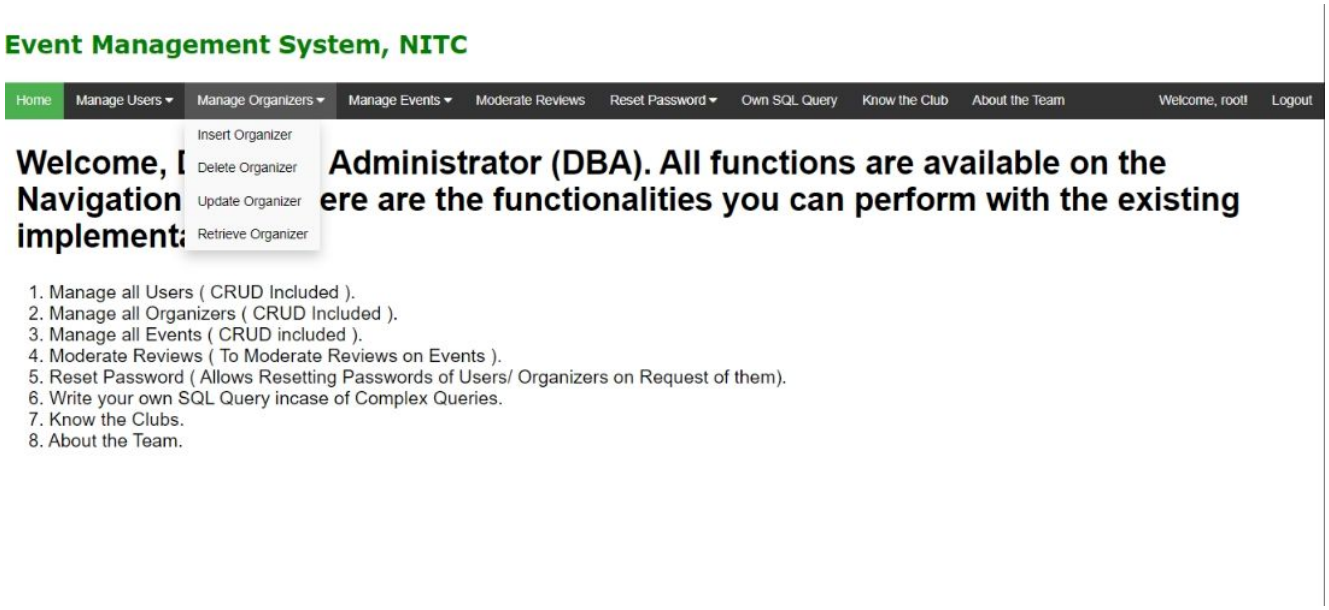


Figure 10.22 CRUD Operations of Organizer Management by DBA in EMS

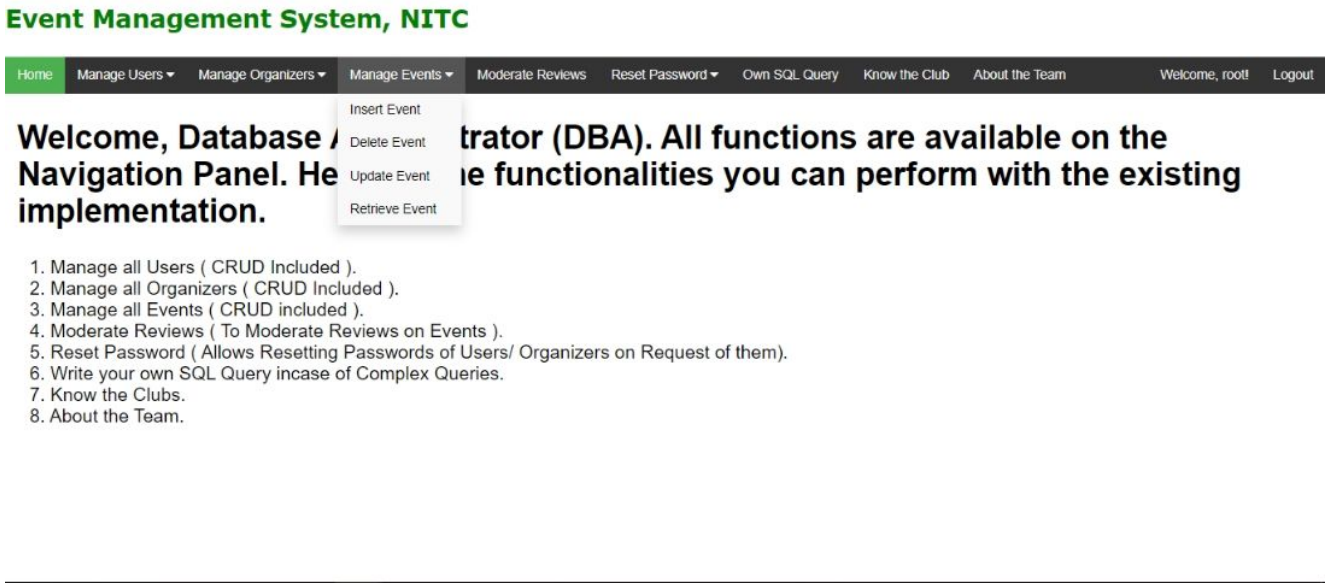


Figure 10.23 CRUD Operations of Event Management by DBA in EMS

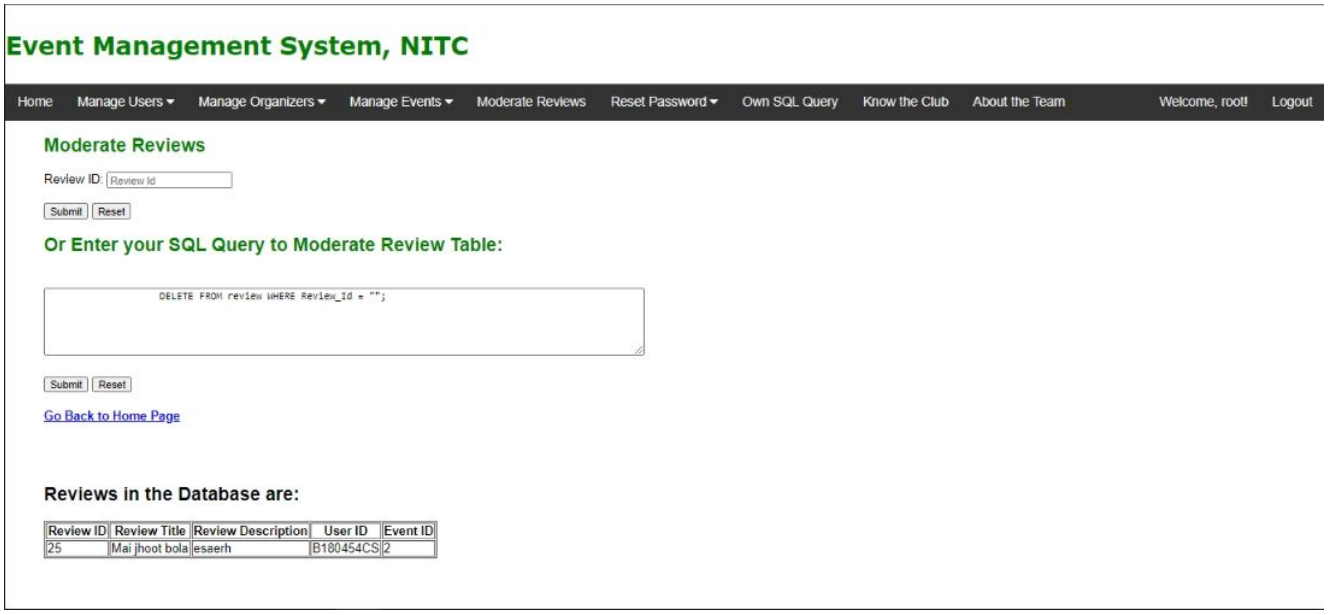


Figure 10.24 Moderate Reviews by DBA in EMS

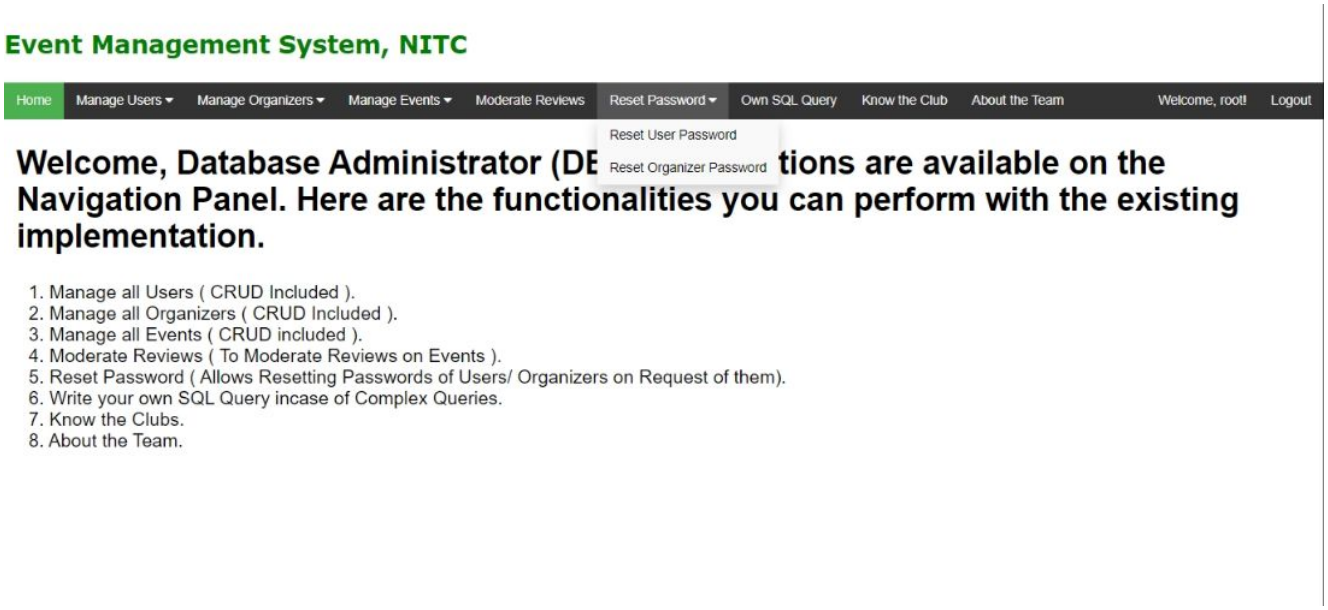


Figure 10.25 Password Management of User and Organizer by DBA in EMS

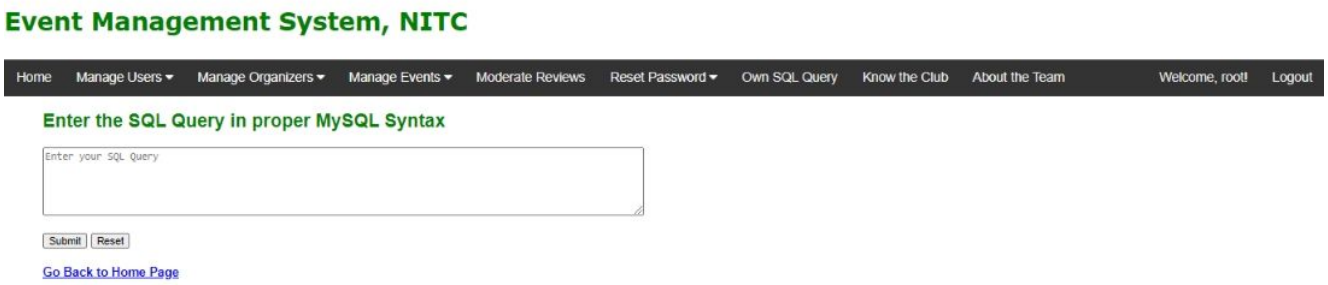


Figure 10.26 Support for Complex Queries through Website by DBA in EMS

11. Implementation Details

11.1 Front End

11.1.1 HTML

Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as <img /> and <input /> directly introduce content into the page. Other tags such as <p> surround and provide information

about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

HTML can embed programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), former maintainer of the HTML and current maintainer of the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

11.1.2 CSS 

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML.CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts.This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

CSS information can be provided from various sources. These sources can be the web browser, the user and the author. The information from the author can be further classified into inline, media type, importance, selector specificity, rule order, inheritance and property definition. CSS style information can be in a separate document or it can be embedded into an HTML document. Multiple style sheets can be imported. Different styles can be applied depending on the output device being used; for example, the screen version can be quite different from the printed version, so that authors can tailor the presentation appropriately for each medium.The style sheet with the highest priority controls the content display. Declarations not set in the highest priority source are passed on to a source of lower priority, such as the user agent style. The process is called cascading.

One of the goals of CSS is to allow users greater control over presentation. Someone who finds red italic headings difficult to read may apply a different style sheet. Depending on the browser and the web site, a user may choose from various style sheets provided by the designers, or may remove all added styles and view the site using the browser's default styling, or may override just the red italic heading style without altering other attributes.

11.2 Back End

11.2.1 PHP 

PHP is a server side scripting language that is used to develop Static websites or Dynamic websites or Web applications. PHP stands for Hypertext Preprocessor, which earlier stood

for Personal Home Pages. PHP scripts can only be interpreted on a server that has PHP installed. The client computers accessing the PHP scripts require a web browser only. A PHP file contains PHP tags and ends with the extension ".php".

The term PHP is an acronym for PHP: Hypertext Preprocessor. PHP is a server-side scripting language designed specifically for web development. PHP can be easily embedded in HTML files and HTML codes can also be written in a PHP file. The thing that differentiates PHP with client-side language like HTML is, PHP codes are executed on the server whereas HTML codes are directly rendered on the browser.

PHP: Hypertext Preprocessor (or simply PHP) is a general-purpose programming language originally designed for web development. It was originally created by Rasmus Lerdorf in 1994.PHP code may be executed with a command line interface (CLI), embedded into HTML code, or used in combination with various web template systems, web content management systems, and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in a web server or as a Common Gateway Interface (CGI) executable. The web server outputs the results of the interpreted and executed PHP code, which may be any type of data, such as generated HTML code or binary image data. PHP can be used for many programming tasks outside of the web context, such as standalone graphical applications and robotic drone control.

11.2.2 MYSQL

MySQL is an open source relational database management system (RDBMS) based on Structured Query Language (SQL). It is one part of the very popular LAMP platform consisting of Linux, Apache, My SQL, and PHP. Currently My SQL is owned by Oracle. My SQL database is available on most important OS platforms. It runs on BSD Unix, Linux, Windows, or Mac OS. Wikipedia and YouTube use My SQL. These sites manage millions of queries each day. My SQL comes in two versions: My SQL server system and My SQL embedded system.

11.3 Frameworks

11.3.1 Bootstrap

Bootstrap is a free and open source front end development framework for the creation of websites and web apps. The Bootstrap framework is built on HTML, CSS, and JavaScript to facilitate the development of responsive, mobile-first sites and apps.

Responsive design makes it possible for a web page or app to detect the visitor’s screen size and orientation and automatically adapt the display accordingly; the mobile first approach assumes that smartphones, tablets and task-specific Mobile apps are employees' primary tools for getting work done and addresses the requirements of those technologies in design.

Bootstrap includes user interface components, layouts and JS tools along with the framework for implementation. The software is available precompiled or as source code.

Mark Otto and Jacob Thornton developed Bootstrap at Twitter as a means of improving the consistency of tools used on the site and reducing maintenance. The software was formerly known as Twitter Blueprint and is sometimes referred to as Twitter Bootstrap.

In computers, the word bootstrap means to boot: to load a program into a computer using a much smaller initial program to load in the desired program (which is usually an operating system).

In the physical world, a bootstrap is a small strap or loop at the back of a leather boot that enables you to pull the entire boot on and in general usage, bootstrapping is the leveraging of a small initial effort into something larger and more significant. There is also a common expression, "pulling yourself up by your own bootstraps," meaning to leverage yourself to success from a small beginning.

11.4 Password Encryption

The password of the user is sensitive information. Therefore storing it as it is entered by the user or organizer can lead to loss of privacy in case of a data breach on the database. Therefore it is an important task to protect the password of the users and organizers from the data breaches. So, a hashing technique has been used to encrypt the password and make it immune to simple attacks. SHA256 hashing mechanism has been adapted to hash the passwords.

11.4.1 SHA256 Data Hashing

SHA-2 (Secure Hash Algorithm 2) is a set of cryptographic hash functions designed by the United States National Security Agency (NSA) and first published in 2001.They are built using the Merkle–Damgård construction, from a one-way compression function itself built using the Davies–Meyer structure from a specialized block cipher.

SHA-2 includes significant changes from its predecessor, SHA-1. The SHA-2 family consists of six hash functions with digests (hash values) that are 224, 256, 384 or 512 bits: SHA-224, SHA-256, SHA-384, SHA-512, SHA-512/224, SHA-512/256. SHA-256 and SHA-512 are novel hash functions computed with 32-bit and 64-bit words, respectively. They use different shift amounts and additive constants, but their structures are otherwise virtually identical, differing only in the number of rounds. SHA-224 and SHA-384 are truncated versions of

SHA-256 and SHA-512 respectively, computed with different initial values. SHA-512/224 and SHA-512/256 are also truncated versions of SHA-512, but the initial values are generated using the method described in Federal Information Processing Standards (FIPS) PUB 180-4.

SHA-2 was first published by the National Institute of Standards and Technology (NIST) as a U.S. federal standard (FIPS). The SHA-2 family of algorithms are patented in US patent 6829355. The United States has released the patent under a royalty-free license.

Currently, the best public attacks break preimage resistance for 52 out of 64 rounds of SHA-256 or 57 out of 80 rounds of SHA-512, and collision resistance for 46 out of 64 rounds of SHA-256.

11.5 RDBMS Terminology

Before we proceed to explain the MySQL database system, let's revise a few definitions related to databases.

Database: A database is a collection of tables, with related data.

Table: A table is a matrix with data. A table in a database looks like a simple spreadsheet.

Column: One column (data element) contains data of one and the same kind, for example the column postcode.

Row: A row (= tuple, entry or record) is a group of related data, for example the data of one subscription.

Redundancy: Storing data twice, redundantly to make the system faster.

Primary Key: A primary key is unique. A key value cannot occur twice in one table. With a key, you can find at most one row.

Foreign Key: A foreign key is the linking pin between two tables.

Compound Key: A compound key (composite key) is a key that consists of multiple columns, because one column is not sufficiently unique.

Index: An index in a database resembles an index at the back of a book.

Referential Integrity: Referential Integrity makes sure that a foreign key value always points to an existing row.

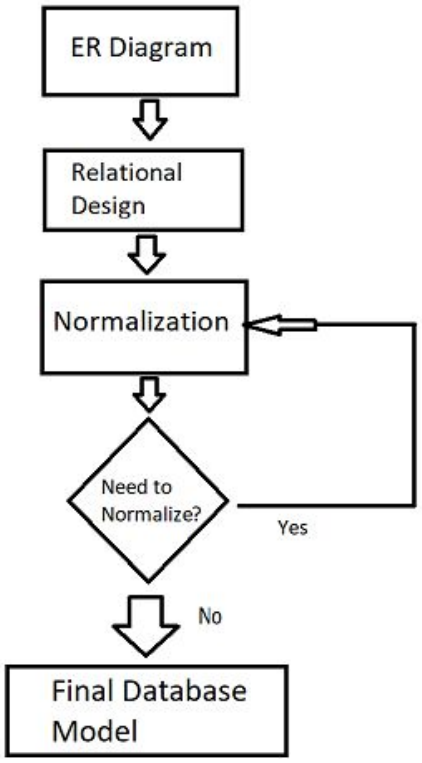


Figure 11.1 Database Design Approach

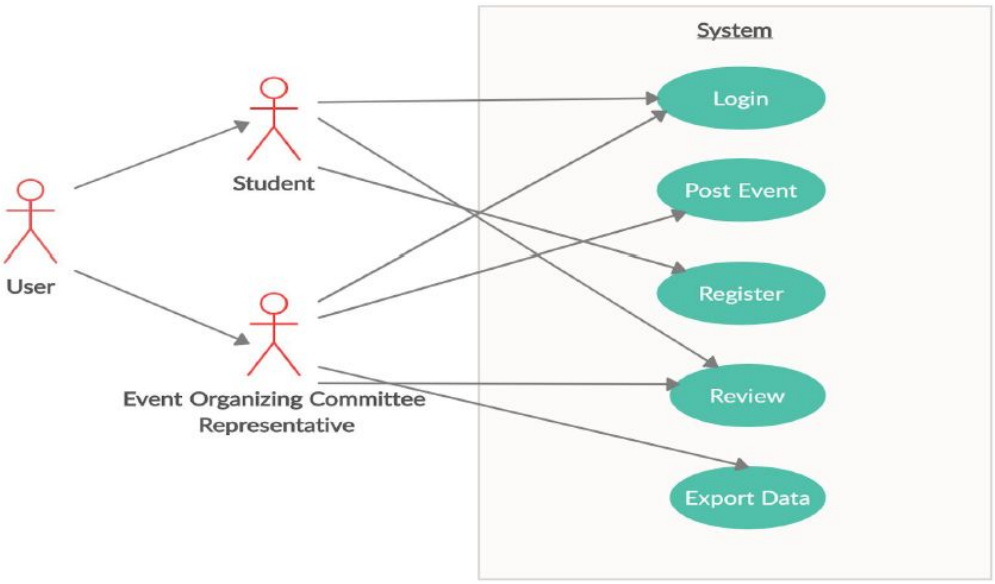


Figure 11.2 Use Case Diagram

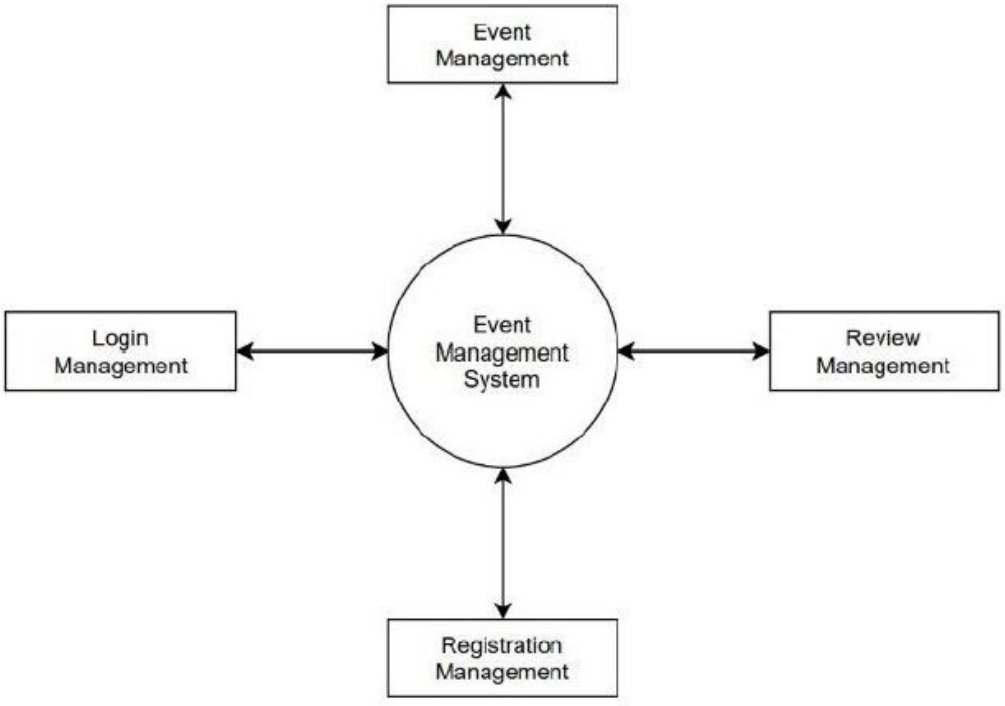
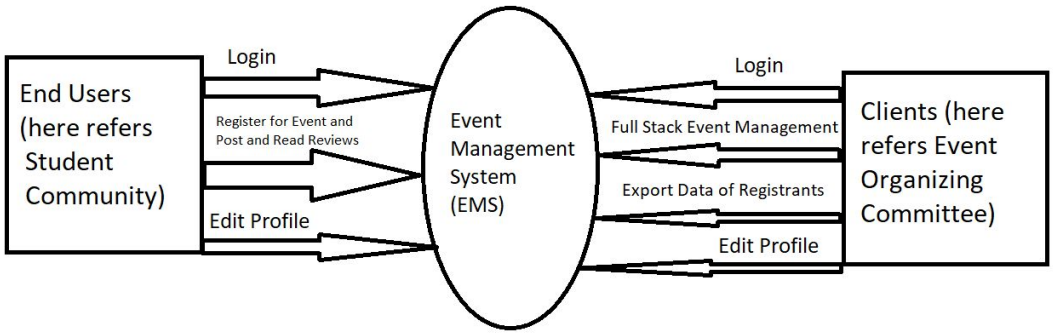


Figure 11.3 DFD Level 0 1st Image

Figure 11.4 DFD Level 0 2nd Image



12. Results

There is a lack of consolidated platform for hosting, organizing and tracking the events that are conducted at the club level in NITC. There is also a shortage of a platform which helps the event organizers to schedule an event so that it does not interfere with the events conducted by other organizers. Therefore we believe deployment of this application is a win win situation for all the parties involved as it solves all the above mentioned problems by providing a consolidated platform for organizing club level events for NITC.

13. Testing

We have tested all the CRUD operations and checked for all possible bugs in the web application. As of now, there are not any. We have successfully made a web application considering the intricacies of the database model and relation schema properly. The following screenshots are testimony of the same.

We have isolated User and Organizer Authentication to separate tables to avoid possible data breaches and leaks of sensitive information. SQL Injection has been successfully taken care of in all the forms.

Database Administrator can perform all operations performed by user and the organizer and has successful sudo control over the entire web application and database.

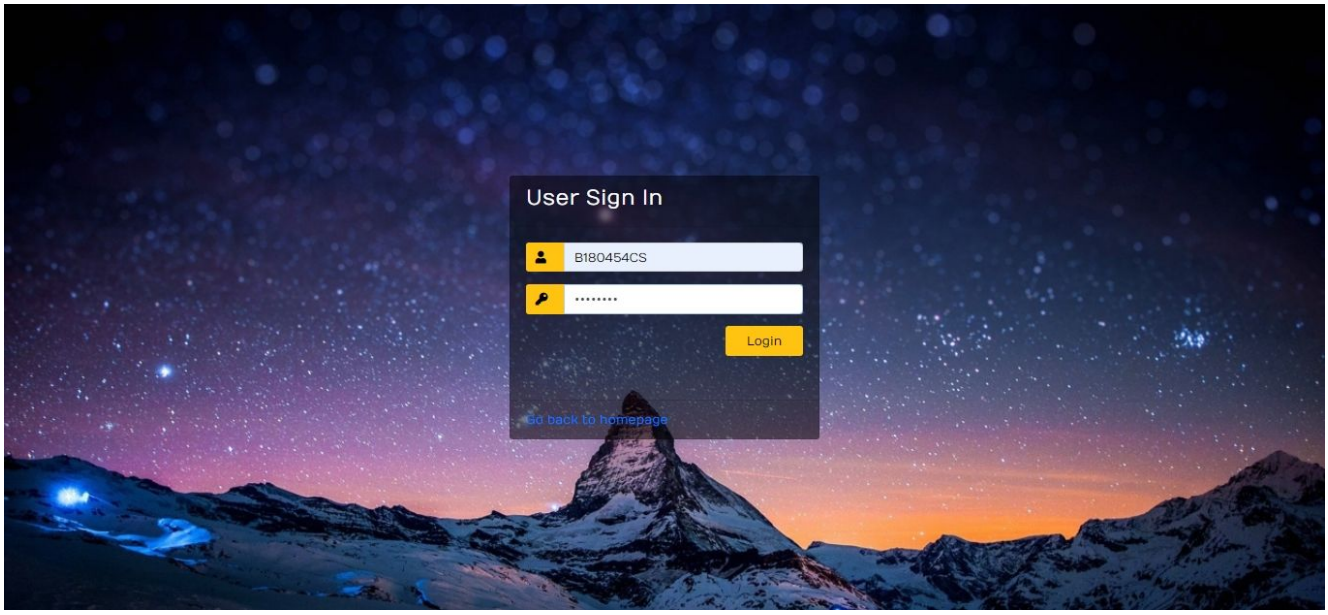


Figure 13.1 Secure User Login of EMS (Organizer Login is a Similar Page and is different from User Login) Leads to User to User Dashboard and Organizer to Organizer Dashboard

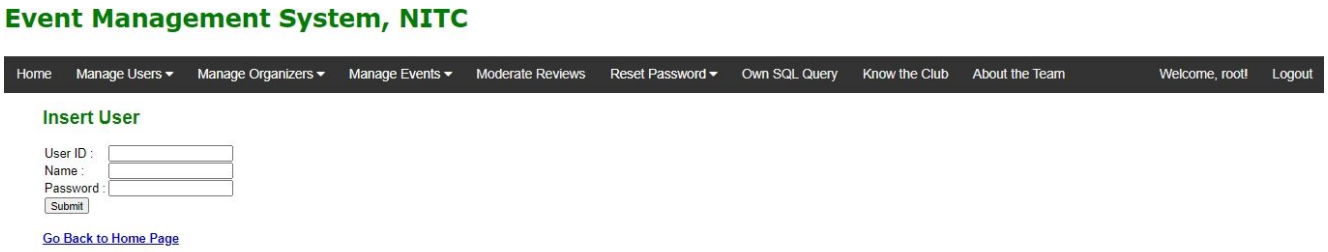


Figure 13.2 Insert User Details by Database Administrator(DBA)

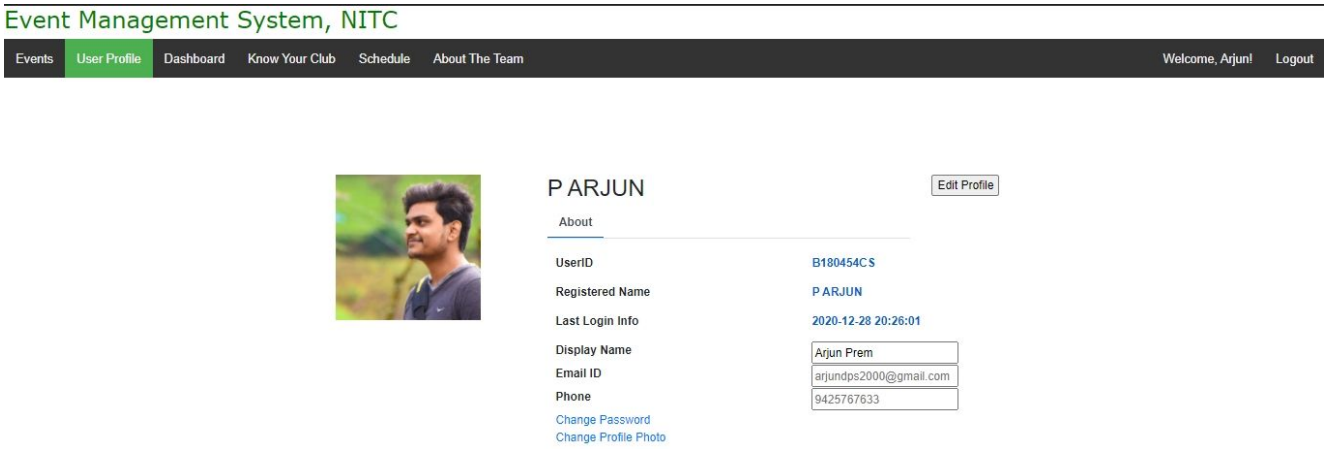


Figure 13.3 User Profile of EMS

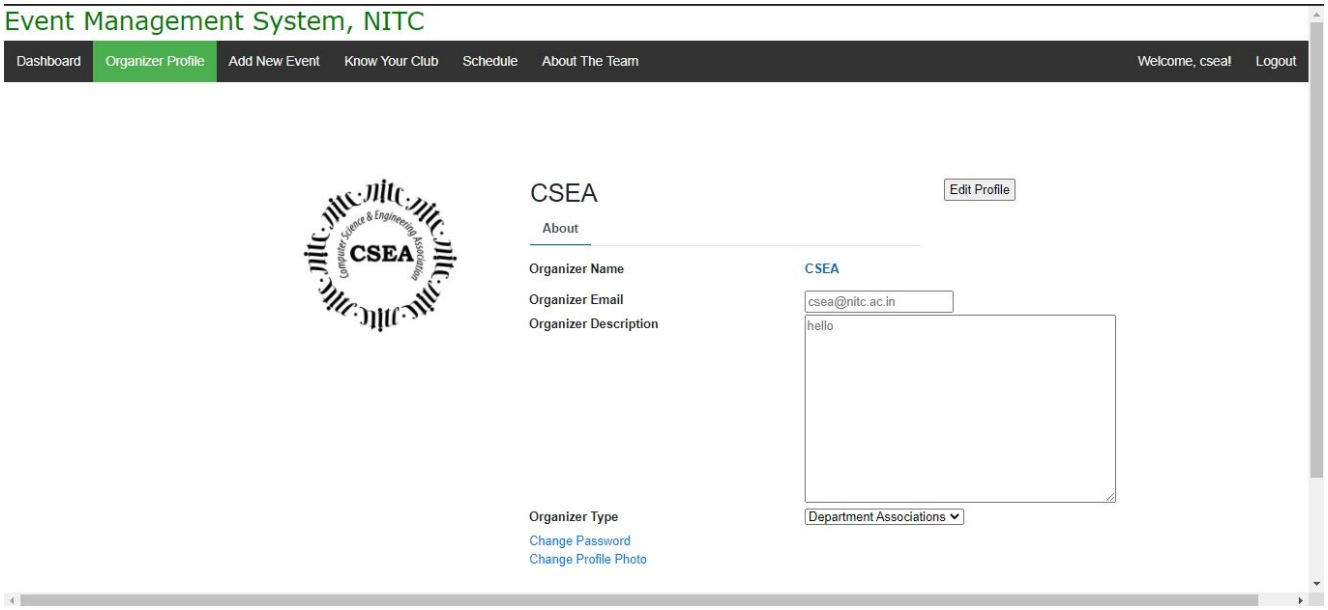


Figure 13.4 Organizer Profile of EMS

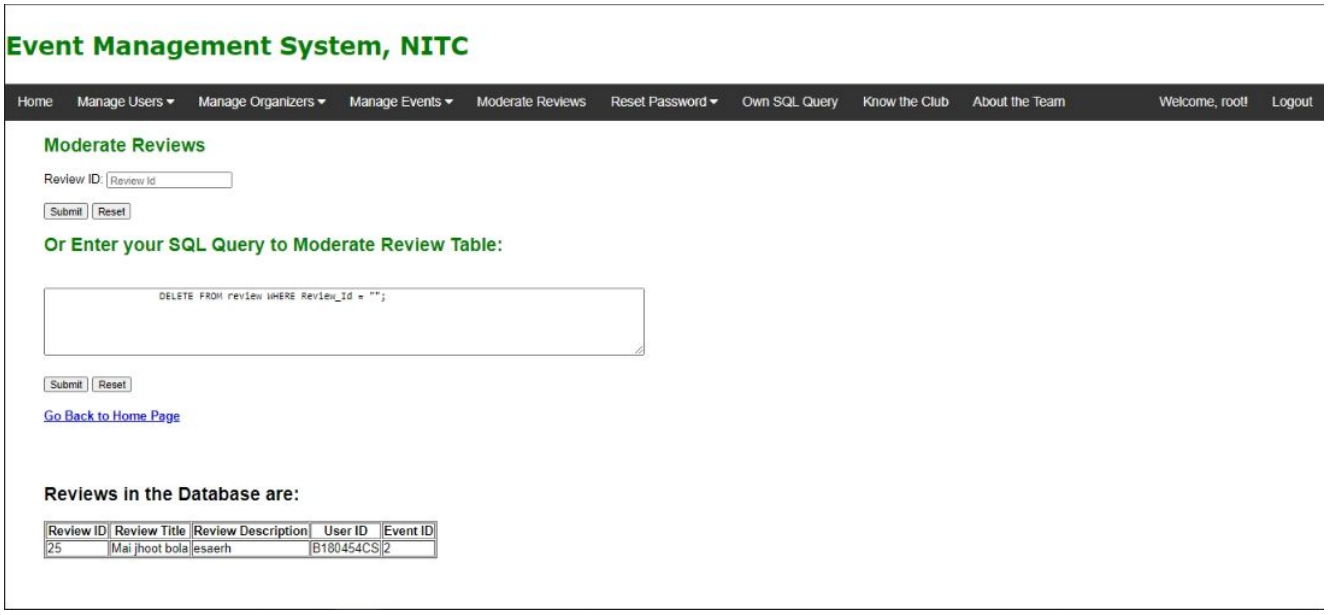


Figure 13.5 Moderating Reviews Can delete any reviews which is found to be in breach of code of conduct and community guidelines. Access only to Database Administrator

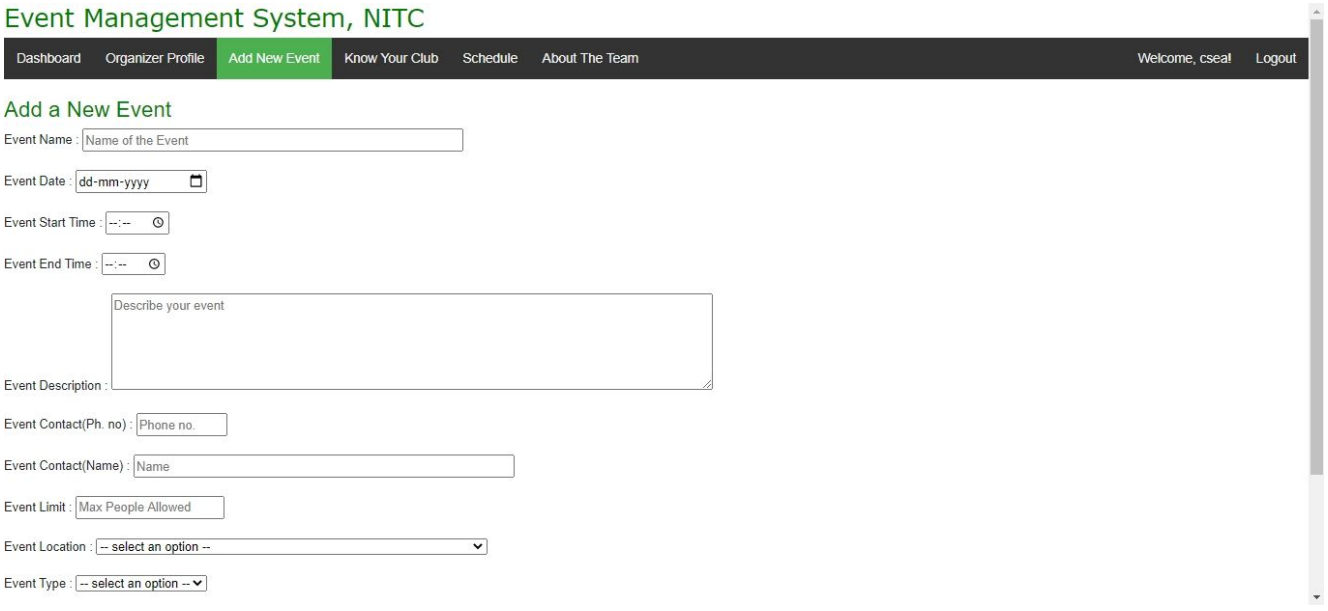


Figure 13.6 Add new Event. Access to DBA and Organizer

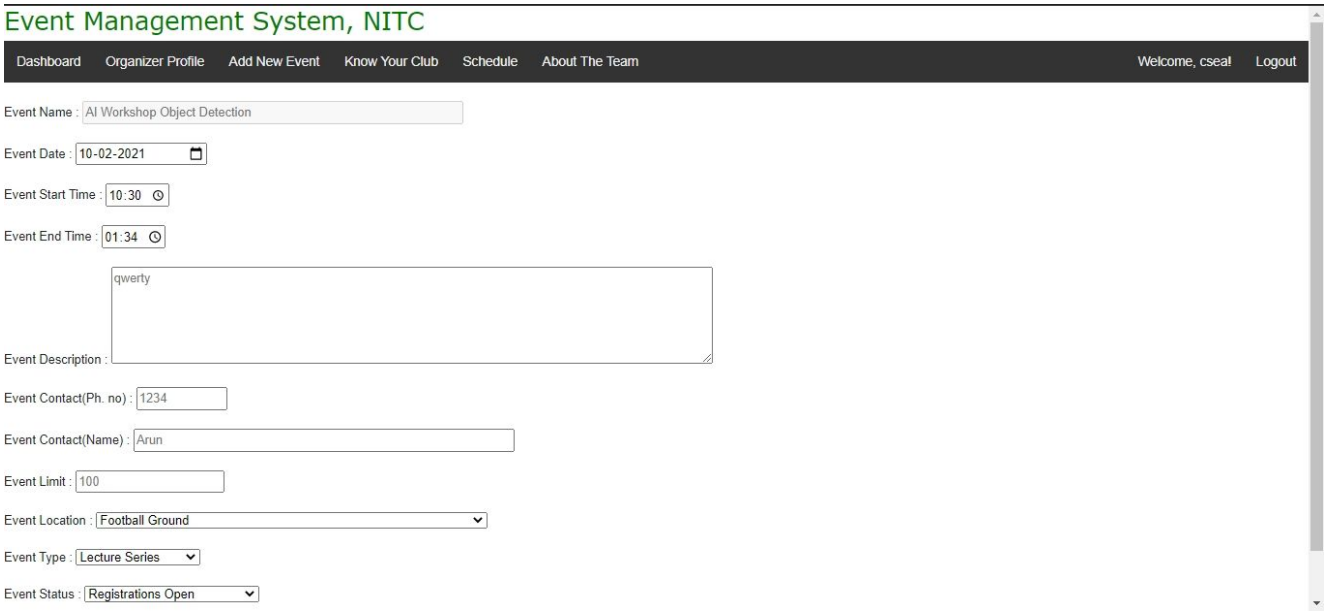


Figure 13.7 Edit an Event. Access to both DBA and Organizer

14. User Manual

Logging into the website:

1. **User Login:**

   This is a login specific to the users or the students to login to the website. The login is done using a user id and a password provided initially to the students. The user id being their Roll Number and the password being a random 8 character text initially set.

   The user can only access the registration of an event if he is logged in

2. **Organizer Login:**

   This is a login specific to the event organizers to login to the website. The login is done using a user id and a password provided to the event organizers by the administrators of the website.

   The organizers can add or edit an event only if he is logged in.

User Operations:

1. **Event Registration:**

   The user can register to attend any event which is open to him. The registration to an event can be done by navigating to the required event and using the register button to register and then the deregister button to deregister from the event if he is initially

registered for it. The registration page also provides the limit of registrants and the number of registration still possible.

2. **Viewing the registered event:**

   The user can view all the events he is registered in using the Dashboard from the navigation bar on top of the webpage.

3. **Viewing the reviews on the registered event:**

   The user can view the reviews and post reviews on the events available in the Event Registration Page.

4. **Editing user profile:**

   Users can change some attributes of their account namely the Display name, contact number and the email address. The user can also change the profile picture and the user password using the profile page from the navigation bar.

5. **Knowing about the organizers:**

   Users can know about all the event organizers using the Know your Club option in the navigation bar.

6. **Filter events by date:**

   Users can view all the events in a particular range of date using the Filter events by date option in the navigation bar and then accordingly plan their participation.

7. **Ask and view queries:**

   Users can ask queries to the organizers by clicking on “Ask Queries” below the Event Card and view their unresponded queries in the “View Sent Queries” section available in the Navigation Bar.

8. **View notifications:**

   Users can view all the notifications posted by the organizers by clicking on the notifications button in the navigation bar.

Organizer Operations:

1. **Adding an Event:**

   An Organizer can add any number of events using the add event option in the navigation bar. The organizer has to provide all the required details of the event in their specific regions to add an event.

2. **Editing organizer profile:**

Organizers can edit their profile to change their profile photo, password, email address, description. The organizers can edit the profile using the edit profile option in the navigation bar.

3. **Download Registrants list:**

   The organizer can download the list of registrants, registered for their event. An option to download the registrants list as a csv file is provided under each event in the dashboard of the organizer.

4. **Delete an event:**

   Organizers can delete the events hosted by them. The option is available in the dashboard under each event hosted by them.

5. **Filter events by date:**

   Organizers can view all the events in a particular range of date by clicking on the Filter events by date option in the navigation bar and then accordingly plan their schedule.

6. **Update the status of events hosted:**

   The Event Organizer can change the status of each event hosted by them which triggers a message to all the registered users notifying the same.

7. **Send a message to all the registered users:**

   Organizers can send a message to all the users registered in the particular event to notify them about some important aspects of the event.

8. **Send a message to a particular user:**

   The Organizer can send a message or notification to a particular user registered for the event. The organizer can choose a particular user to send the message and then send a message specific to the user.

9. **Reply to the user Queries:**

   The Event Organizer can view and reply to all the queries asked or posted by the users regarding a particular event. The query is deleted once the organizer replies to the user.

Database Administrator Operations:

The root or administrator access can be achieved by logging in using the user-id “root” and password “nitc_2020” in the organizer login page.

1. **All the operations done by user and organizer**
2. **Add a user and organizer**

   The root user or the website administrator can add a new organizer or a new user to the database using the insert organizer/user options under the dropdown list of Organizer/User in the navigation bar of the webpage.

3. **Update a user and organizer**

   The root user or the website administrator can update an existing organizer or an existing user to the database using the update organizer/user options under the dropdown list of Organizer/User in the navigation bar of the webpage.

4. **Retrieve the details of user and organizer**

   The administrator can retrieve the details of any user or organizer using their user-ids/organizer-ids. This can be performed using the retrieve organizer/user options in the dropdowns of the User/Organizer present in the navigation bar.

5. **Delete the details of user and organizer**

   The administrator can delete the details of any user or organizer using their user-ids/organizer-ids. This can be performed using the delete organizer/user options in the dropdowns of the User/Organizer present in the navigation bar.

6. **Moderate reviews of an event**

   The administrator or the root user can delete all the reviews given by the users of a particular event. This is done using the Moderate Reviews option in the navigation bar of the webpage.

7. **Run any SQL query**

   Any SQL query that is valid for the database can be run by the administrator to perform any operation on the database. It can be performed using the run a query option present in the navigation bar of the webpage.

8. **Reset the passwords of user and organization**

   In case of misplacement of passwords by Users and Organizers, the administrator can reset their password to their usernames so that they can access their accounts and change their passwords again. This is done using the reset user/organiser password under the dropdown of reset password in the navigation bar.

15. Conclusion

The event management system created by us provides a consolidated system where the organizers can deploy their events and the end users can view and register for the event he finds interesting and appealing and also the user can write a review which would help the organizers to improve the quality of the events. A database administrator is also deployed to track all the activities for the smooth functioning of the webapp.

All the functionalities are working perfectly with no bugs reported as of now. The end product can serve as a medium to enable Event Organizers access the entire Event Management Stack and User participate in all the eligible events to them. This serves as a perfect interface at the club level for clubs, organizations and associations of our campus.

Appendix

Appendix A: Referenced Documents

Title/Website
Fundamentals of Database Systems, 7/e, Pearson Education, 2016
https://www.guru99.com/database-design.html
https://www3.ntu.edu.sg/home/ehchua/programming/sql/Relational_Database_Design.html
https://www.w3schools.com/
https://getbootstrap.com/

Appendix B: Data Dictionary

CSS	*Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML.*
Database	*A database is an organized collection of data, generally stored and accessed electronically from a computer system*
Data Flow Diagram	*A data-flow diagram is a way of representing a flow of data through a process or a system.*
Event	*A planned organized occasion by the Event Organizing Committee to be held for NITC.*
Event Management	*The art of organizing and planning events.*
Event Organizing Committee	*Group of individuals in charge of organizing an event to be held for NITC.*
Event Organizing Committee Representative (EOCR)	*A person from the Event Organizing Committee managing the event.*
HTML	*Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser*
National Institute of Technology, Calicut (NITC)	*The organization for which the application is developed*
PHP	*PHP is a general-purpose scripting language especially suited to web development*
SQL	*Structured Query Language. SQL is used to communicate with a database.*
Web Application	*A web application (or web app) is application software that runs on a web server, unlike computer-based software programs that are stored locally on the Operating System (OS) of the device*

Bootstrap	Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development
Database	Organized collection of information or data
ER Diagram	ER Diagram is a graphical representation of entities and their relationships.
Normalisation	Process of minimizing redundancy from a relation or set of relations

RDBMS	A relation database is a collection of information that organizes data points with defined relationships for easy access.
Functional Dependency	If the information stored in a table can uniquely determine another information in the same table, then it is called functional dependency.
DBA	A database administrator (DBA) is a specialized computer systems administrator who maintains a successful database environment by directing or performing all related activities to keep the data secure. The top responsibility of a DBA professional is to maintain data integrity. This means the DBA will ensure that data is secure from unauthorized access but is available to users.
DFD	A data-flow diagram is a way of representing a flow of data through a process or a system. The DFD also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow, there are no decision rules and no loops