

Design Document

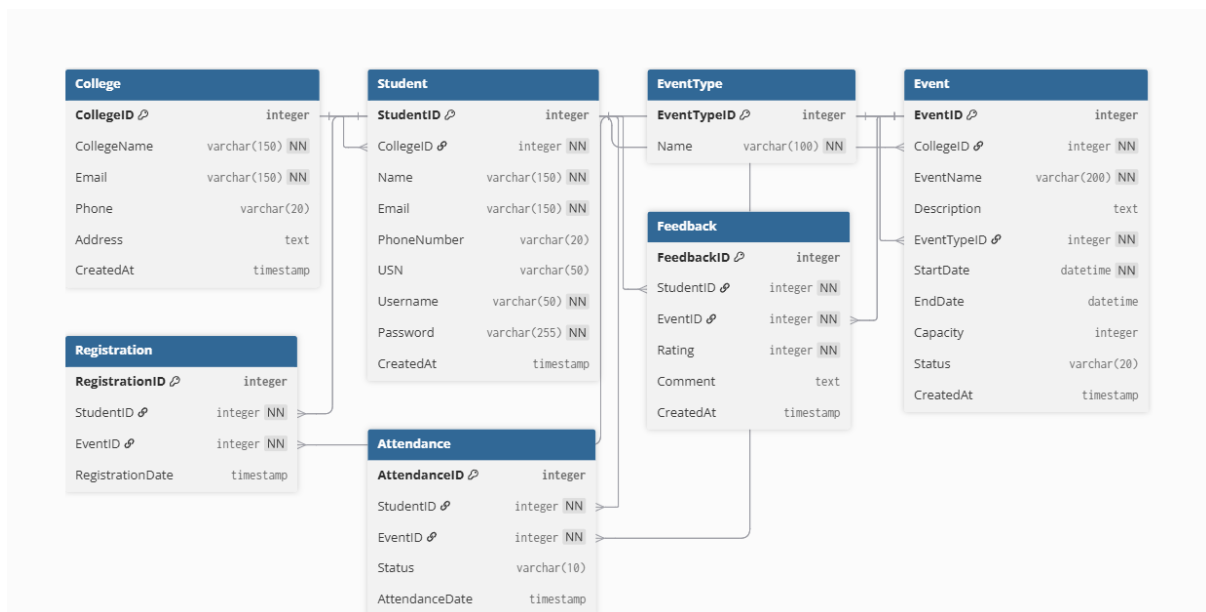
Data to Track

The system is designed to track four primary types of data to support the Campus Event Management Platform:

- **Events:** Details related to event creation, including EventID, EventName, Description, EventTypeID, CollegeID, StartDate, and EndDate.
- **Students:** Core student information like StudentID, Name, Email, PhoneNumber, USN, Username, and Password.
- **Registrations:** Records of students signing up for specific events, which links a student to an event.
- **Attendance:** Information on which students checked in on the day of an event.
- **Feedback:** Ratings from students on a scale of 1-5 for events they attended.
- **Logins:** User credentials for both students and college staff.

Database Schema

The database schema is structured to handle data from multiple colleges and thousands of students. A single, large dataset is used for simplicity and to centralize data.



API Endpoints Table

Module	HTTP Method	Endpoint	Description
Event Management	POST	/api/events	Add a new event
	GET	/api/events/popularity	Get events sorted by registrations
	GET	/api/events/upcoming	Get upcoming events
	GET	/api/events/bydate?date=YYYY-MM-DD	Get events by date
	GET	/api/events/registrationcount/{eventId}	Total registrations for an event
	GET	/api/events/attendancepercentage/{eventId}	Attendance percentage for an event
	GET	/api/events/bytype/{eventType}	Get events filtered by type (Workshop/Fest/Seminar)
Student Management	POST	/api/students	Add a new student
	GET	/api/students/registrationscount/{studentId}	Count of events a student registered for
	GET	/api/students/eventsattendedcount/{studentId}	Count of events a student attended
	GET	/api/students/top3active	Get top 3 most active students
Student Login	POST	/api/studentlogins	Add student login (username + password)
	GET	/api/studentlogins/validate?userName=xxx&password=xxx	Validate student login (returns StudentId if correct)
	PUT	/api/studentlogins/changepassword	Change student password (after validating old credentials)
College Login	POST	/api/collegelogins	Add college login (username + password)

Module	HTTP Method	Endpoint	Description
Registrations & Attendance	GET	/api/collegelogins/validate?userName=xxx&password=xxx	Validate college login (returns Collegeld if correct)
	PUT	/api/collegelogins/changepassword	Change college password (after validating old credentials)
	POST	/api/registrations	Register a student for an event
	POST	/api/attendance	Mark attendance for a student
	POST	/api/feedback	Submit feedback for an event
Reports	GET	/api/reports/registrations	Total registrations per event
	GET	/api/reports/attendance	Attendance percentage per event
	GET	/api/reports/feedback	Average feedback score per event

Workflows

1. Student Registration

- **Student:** Selects an event and sends a POST request to the registration endpoint with their StudentID and the EventID.
- **API:** Validates the request (e.g., checks for duplicate registrations).
- **Database:** Saves the registration record.
- **API:** Sends a success response to the student.

2. Attendance Marking

- **College Staff:** Navigates to an event details page and selects a student to mark as attended.
- **College Staff:** Sends a POST request to the attendance endpoint with StudentID and EventID.
- **API:** Validates that the student has registered for the event.
- **Database:** Saves the attendance record.
- **API:** Sends a success response.

3. Reporting

- **College Staff:** Requests a specific report (e.g., Event Popularity).
- **College Staff:** Sends a GET request to the relevant report endpoint.
- **API:** Queries the database to retrieve the necessary data.
- **API:** Processes and aggregates the data as required by the report.
- **API:** Sends the final report data to the college staff.

Assumptions & Edge Cases

- **Scale:** The system will be used by approximately 50 colleges, each with around 500 students and 20 events per semester.
- **Data Storage:** A single, large dataset will be used to simplify management, rather than separating data by college.
- **Unique Identifiers:** The Student USN is a unique identifier across all colleges. Event IDs are unique within a college.
- **Duplicate Registrations:** The system will prevent a student from registering for the same event more than once.
- **Missing Feedback:** The reporting system is built to handle events with no feedback by returning a default value (e.g., 0 or null), preventing errors.
- **Cancelled Events:** Events will not be deleted from the database if cancelled. Instead, a status flag will be used to mark them as cancelled, preserving historical data.

Welcome to the Event Management System

Student

College

Student Login

Username

Password

Login

[Go back](#)

Create Student Account

Name

Phone Number

Email

USN

Username

Password

Create Account

[Go back](#)

Create New Event

Event Name

Event Type

Select an Event Type



Description

Start Date

dd-mm-yyyy



Start Time

--:-- --



Create Event

[Go back](#)

College Login

Username

Password

Login

Sign Up

[Go back](#)

Welcome, Acharya Institute Of Technology!

[Logout](#)

Create Student

Create Event

Upcoming Events in Your Campus

Annual Tech Fest

Date: September 15, 2025

Our annual technology festival with coding competitions and workshops.

Data Science Workshop

Date: October 5, 2025

A hands-on workshop to learn the basics of data science and machine learning.

Startup Pitch Day

Date: November 2, 2025

An opportunity for students to pitch their startup ideas to a panel of investors.

Create New Event

Event Name

Event Type

Select an Event Type



Select an Event Type

Hackathon

Workshop

Seminar

Fest

Webinar

Conference

Other

dd-mm-yyyy



Start Time

--:--



Create Event

[Go back](#)

[Go back to Dashboard](#)

Event Details: ProCode

Students Registered

250

Students Attended

180

Average Rating



Registered Students

Prajwal H P

Ravi

Rhagu

Mark Attendance

Mark Attendance

Student Name 1 Attended

Student Name 2 Attended

Student Name 3 Mark Attended

Submit

[Go back to Event Details](#)

Hi Prajwal!

[Logout](#)

Upcoming Events for You

Annual Tech Fest

Date: September 15, 2025

Our annual technology festival with coding competitions and workshops.

[Register Now](#)

Data Science Workshop

Date: October 5, 2025

A hands-on workshop to learn the basics of data science and machine learning.

[Register Now](#)

Events You Attended

Startup Pitch Day

Date: August 2, 2025

An opportunity to pitch your startup ideas to a panel of investors.

[Give Feedback](#)

Mobile App Dev Seminar

Date: July 1, 2025

A seminar on the latest trends in mobile application development.

[Give Feedback](#)

Hi Prajwal!

Logout

Upcoming Events

Annual Tech Fest

Date: Sep 15, 2025 | Time: 10:00 AM

Already Registered

Python Workshop

Date: Sep 20, 2025 | Time: 2:00 PM

Register

AWS Workshop

Date: Sep 25, 2025 | Time: 3:00 PM

Register

Browse All Events

My Attended Events

Webinar on AI

Date: Aug 28, 2025 | Time: 11:00 AM

Give Feedback

Annual Tech Fest

Date: Sep 15, 2025 | Time: 10:00 AM

Already Registered

Python Workshop

Date: Sep 20, 2025 | Time: 2:00 PM

Register

AWS Workshop

Date: Sep 25, 2025 | Time: 3:00 PM

Register

Browse All Events

My Attended Events

Webinar on AI

Date: Aug 28, 2025 | Time: 11:00 AM

Give Feedback

Cybersecurity Seminar

Date: Aug 20, 2025 | Time: 9:00 AM

Feedback Given

Welcome, Acharya Institute of Technology!

Logout

Create Student

Create Event

Student

Upcoming Events in Your Campus

Annual Tech Fest

Date: September 15, 2025

Our annual technology festival with coding competitions and workshops.

Data Science Workshop

Date: October 5, 2025

A hands-on workshop to learn the basics of data science and machine learning.

Startup Pitch Day

Date: November 2, 2025

An opportunity for students to pitch their startup ideas to a panel of investors.

Student Management

Search by USN...

Top Activity

John Doe

USN: USN12345

Jane Smith

USN: USN67890

Alex Johnson

USN: USN11223

[Go back to Dashboard](#)

Top 3 Popular Events

Annual Tech Fest

3000+ Registrations

CodeFest 2025

2500+ Registrations

Startup Pitch Day

1800+ Registrations

All Events

Filter by Event Type

All

Search by Name

Co

Filter by Date

dd-mm-yyyy

CodeFest 2025

Date: Nov 10, 2025 | Type: Hackathon

Register

Annual College Fest

Date: Jan 20, 2026 | Type: Fest

Register

[Go back to Dashboard](#)

Top 3 Popular Events

Annual Tech Fest

3000+ Registrations

CodeFest 2025

2500+ Registrations

Startup Pitch Day

1800+ Registrations

All Events

Filter by Event Type

Hackathon

Search by Name

Search by name...

Filter by Date

dd-mm-yyyy

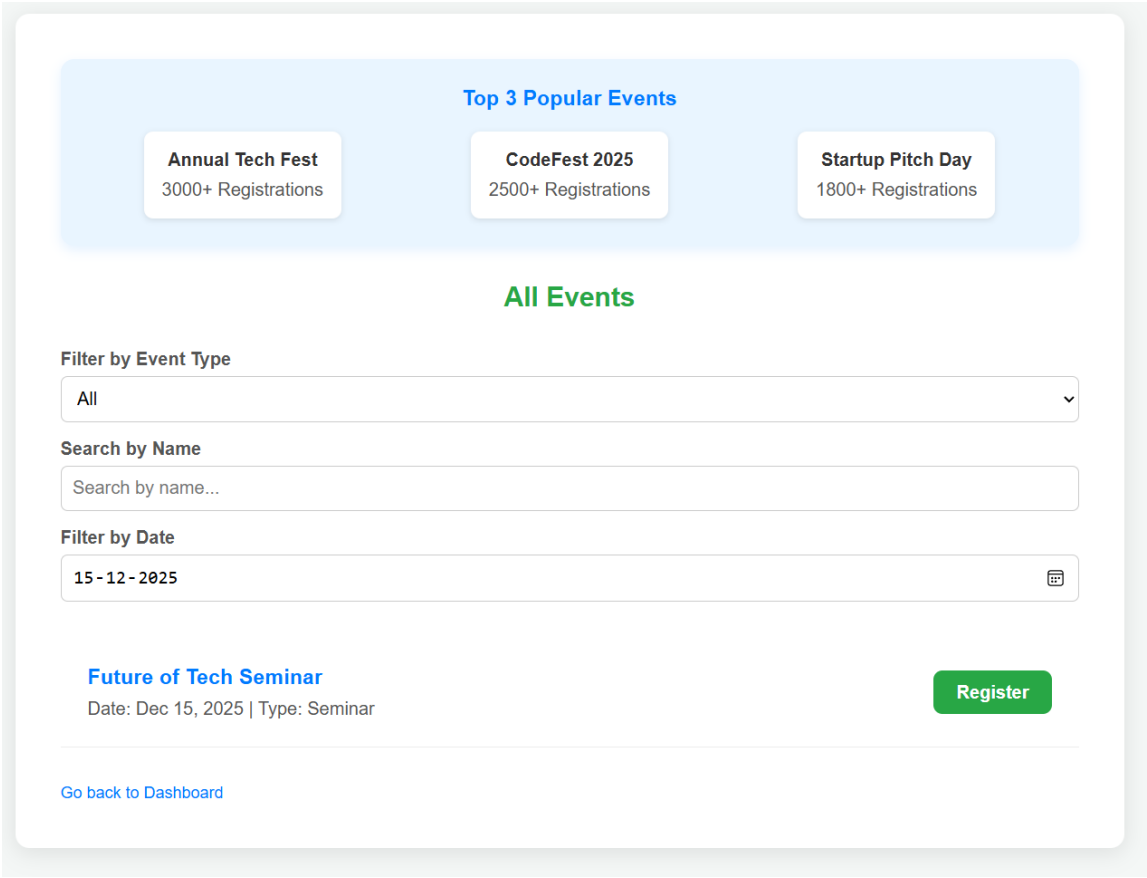
CodeFest 2025

Date: Nov 10, 2025 | Type: Hackathon


Register

[Go back to Dashboard](#)

UI Mockups



Api Endpoints Swagger

 Swagger
powered by SMARTBEAR

Select a definition Karya2 v1

Karya2 ^{1.0} ^{OAS 3.0}

<https://localhost:7161/swagger/v1/swagger.json>

Attendances

GET

/api/Attendances

⌵

POST

/api/Attendances

⌵

GET

/api/Attendances/{id}

⌵

DELETE

/api/Attendances/{id}

⌵

PUT


/api/Attendances/{registrationId}

⌵

CollegeLogins

GET

/api/CollegeLogins

 ⌵

POST

/api/CollegeLogins

⌵

GET

/api/CollegeLogins/{id}

⌵

PUT

/api/CollegeLogins/{id}

⌵

DELETE

/api/CollegeLogins/{id}

⌵

Colleges

GET

/api/Colleges

⌵

POST

/api/Colleges

⌵

GET

/api/Colleges/{id}

⌵

PUT

/api/Colleges/{id}

⌵

DELETE

/api/Colleges/{id}

⌵

Students

GET

/api/Students

⌵

POST

/api/Students

⌵

GET

/api/Students/{id}

⌵

PUT

/api/Students/{id}

⌵

DELETE

/api/Students/{id}

⌵

GET

/api/Students/RegistrationsCount/{studentId}

⌵

GET

/api/Students/EventsAttendedCount/{studentId}

⌵

GET

/api/Students/TopActive

⌵

GET

/api/Students/UpcomingEvents/{studentId}

⌵

GET

/api/Students/UpcomingEvents/{studentId}

^

Parameters

Cancel

Name	Description
studentId required	<input type="text" value="2"/>
<small>integer(\$int32)</small>	<small>(path)</small>

ExecuteClear

Responses

Curl

```
curl -X 'GET' \
  'https://localhost:7161/api/Students/UpcomingEvents/2' \
  -H 'accept: text/plain'
```

Request URL

```
https://localhost:7161/api/Students/UpcomingEvents/2
```

Server response

Code	Details
200	<div><div>Response body</div><pre>{ "eventId": 0, "title": "Cultural Meet", "startDateTime": "2025-10-05T11:00:00" }</pre><div>Download</div></div>

Students

^

GET

/api/Students

^

Parameters

Try it out

No parameters

Responses

Code	Description	Links
200	<div><div>OK</div><div>Media type</div><div>text/plain</div><div>Controls Accept header.</div><div>Example Value Schema</div><pre>{ "studentId": 0, "name": "string", "email": "user@example.com", "phoneNumber": "string", "collegeId": 0, "user": "string" }</pre></div>	No links