Design Document: CampusConnect Events System

1. Data to Track

• User Authentication (admin login, student login, credentials)
• Event Management (event ID, name, type, date, description, status)
• Student Profiles (student ID, name, email, college, login credentials)
• Registrations (student-event mapping, registration date)
• Attendance (whether a registered student attended an event)
• Feedback (student rating and comments for events)

2. Database Schema

Table	Attributes
Colleges	college_id, college_name
Students	student_id, student_name, email, password, college_id
Admins	admin_id, admin_name, email, password
Events	event_id, event_name, event_type, event_date, description, college_id, status
Registrations	registration_id, student_id, event_id, registration_date
Attendance	attendance_id, registration_id, attended
Feedback	feedback_id, registration_id, rating (1–5), comment

3. API Design

Authentication

• POST /api/login → User login (admin/student)

Admin APIs

• GET /api/events → View all events
• POST /api/events → Create new event
• PUT /api/events/{id} → Update event
• DELETE /api/events/{id} → Cancel event
• GET /api/admin/reports/popularity → Events ranked by registrations
• GET /api/admin/reports/participation → Student participation report
• GET /api/admin/reports/feedback → Average feedback per event

Student APIs

• GET /api/student/events → View all available events
• POST /api/student/register → Register for event
• POST /api/student/attendance → Submit attendance
• POST /api/student/feedback → Submit event feedback

4. Workflows

a) Authentication Workflow

- User visits login page.
- System validates credentials.
- User is redirected to the correct portal (Admin or Student).

b) Event Registration Workflow

- Student requests event list.
- System displays available events.
- Student selects an event and registers.
- Registration is saved in database.

c) Attendance Workflow

- Student submits attendance for attended event.
- System records attendance against registration ID.

d) Feedback Workflow

- Student views attended events.
- Student submits rating and optional comments.
- System stores feedback for reporting.

e) Reporting Workflow

- Admin requests report (popularity, participation, feedback).
- System generates query and returns results.

5. Assumptions & Edge Cases

- A student belongs to exactly one college.
- Students can register for multiple events but only once per event.
- Attendance and feedback can only be recorded if the student registered.
- Cancelled events are excluded from all reports.
- Admin credentials are predefined or created by super-admin.
- Passwords are stored securely (hashed).
- Duplicate registrations are prevented by database constraints.
- Missing feedback is excluded from averages.
- API follows REST conventions and uses JSON responses.