Campus Event Management - Design Document

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# 1. Problem & Scope

This system is designed to manage campus events across multiple colleges. It enables staff (Admin Portal) to create events such as hackathons, workshops, seminars, and fests. Students (Mobile App) can browse events, register, attend, and provide feedback. The reporting system focuses on event popularity, student participation, attendance, and feedback analysis.

# 2. Assumptions & Decisions

- Each college has ~500 students and ~20 events per semester.  
- System supports ~50 colleges.  
- Unique event IDs are college-specific.  
- One shared database with college\_id to separate data.  
- Attendance is marked on the event day only.  
- Feedback is rating-based (1–5).

# 3. Data to Track

- Event creation (title, type, date, organizer).  
- Student registration.  
- Event attendance.  
- Student feedback (rating 1–5).

# 4. Database Schema

Tables:  
1. Colleges (college\_id, name).  
2. Students (student\_id, name, email, college\_id).  
3. Events (event\_id, title, type, date, college\_id).  
4. Registrations (reg\_id, student\_id, event\_id, timestamp).  
5. Attendance (attend\_id, student\_id, event\_id, status).  
6. Feedback (feedback\_id, student\_id, event\_id, rating).

# 5. API Design

- POST /events → Create event  
- POST /register → Register student for event  
- POST /attendance → Mark attendance  
- POST /feedback → Submit feedback  
- GET /reports/popularity → Event popularity  
- GET /reports/participation → Student participation  
- GET /reports/attendance → Attendance percentage  
- GET /reports/feedback → Average feedback

# 6. Workflows

Registration → Student selects event → System checks duplicates → Registration stored.  
Attendance → Student checks in → Attendance marked.  
Feedback → Student submits rating → Stored for report.  
Reports → Admin generates report → Queries run against DB.

# 7. Assumptions & Edge Cases

- Duplicate registrations prevented.  
- Event cancellation handled with a status field.  
- Missing feedback allowed (not mandatory).  
- Attendance only valid if student registered.

# 8. Reports

- Event Popularity Report → Sorted by registrations.  
- Student Participation Report → Events attended per student.  
- Attendance % Report → (Attended ÷ Registered) × 100.  
- Feedback Report → Average rating.  
- Top 3 Active Students Report.

# 9. AI Usage Log

Paste screenshots/links of AI chats here.  
- Followed: Database schema suggested by AI.  
- Deviated: Decided to use shared DB instead of per-college DB.