

[MindMatrix Problem Stat...](#)[PDF](#)

mai ek hackathon mai participate kar raha hoon Mind Matrix name ka hai unhone ek problem statement di hai vo uss pdf mai hai mai usko solve karna hai

Thought for 44s >

Thik hai, ab pura scene clear hai 😊

PDF ke hisaab se problem ye hai:

University ko **ek unified Student Participation & Engagement Management System** chahiye jo har student ki **saari activities** track kare –

- technical clubs
- cultural events
- sports, gym, yoga
- workshops, seminars, conferences
- NSS/NCC, volunteering, mentoring
- placement training, life skills, entrepreneurship, etc.

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System ko kya karna hai (simple language):

1. **Event creation** – har club / department apne events create karega.
2. **Attendance tracking** – kaun aaya, kaun nahi, trusted way (cheating possible na ho).
3. **Participation verification** – sirf “genuinely participated” log ko hi count kare.
4. **Scoring mechanism** – har activity category ke liye points/credits (technical, sports, cultural, life skills, etc.).
5. **Long-term record** – 1st sem se last sem tak student ka **portfolio / profile** ready rahe.
6. **Multiple roles** – student, coordinator, secretary, admin alag-alag access ke saath.
7. **Tamper-proof logs + reports** – baad mein koi entry edit/cheat na kar sake, audit trail rahe.

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Ab hackathon ke liye tum kya bana sakte ho?

Main tumhare liye ek **full system idea + features** suggest karta hoon jo 2–3 din ke prototype me possible ho.

1. Roles (User Types)

- **Student**
 - Events dekh sakta hai, register kar sakta hai.
 - Event attend karne ke baad uske profile me points/credits badhenge.
 - **Event Coordinator / Club Head**
 - Events create/update.
 - Attendance verify karega (QR scan data, manual verify, remarks).
 - **Secretary / Faculty Coordinator**
 - Approval of events.
 - Disputes handle, fake entries check.
 - **Admin**
 - Users manage karega, categories & points rules set karega.
 - Reports generate karega (department-wise, batch-wise, student-wise).
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2. Main Modules / Features

(A) Event Management Module

- Create event:
 - Title, description, category (Technical, Sports, Cultural, NSS, etc. – jo table me diye hai).  MindMatrix Problem Statement
 - Date, time, venue
 - Max participants
 - Points/credits per participant
- Event list + filters:
 - Category, date, organizer, open/closed

(B) Smart Attendance Module (Innovative Part)

Yaha tum thoda **innovation** dikh sakte ho:

- **QR-based Attendance**
 - Har event ke liye **unique QR code** generate.
 - QR sirf event time ke dauran valid ho (start–end time window).
 - Student apne **mobile app / web app** se login karke QR scan karega.
 - System:
 - student_id
 - event_id
 - scan_time

- device / IP info
store karega.
- **Cheating prevention ideas**
 - GPS location approx check (optional if mobile allowed nahi).
 - Same device se multiple accounts ka scan block.
 - Time limit (e.g., sirf first 15 min me scan valid).

(C) Participation Verification Flow

- Step 1: Student QR scan karta hai → status = "Pending verification"
- Step 2: Event coordinator login karta hai:
 - Present list dekh ke verify/deny kar sakta hai.
 - Agar event me tasks/things complete karni thi (e.g. project presentation), to notes add.
- Step 3: Approve hone ke baad:
 - Student ke profile me **points/credits** auto add ho jate hain.

(D) Scoring & Credits Engine

- Admin define karega:
 - Category-wise credits (jaise table me hai – Technical Competency, Life Skills, Sports, etc.).  MindMatrix Problem Statement
 - For example:
 - Tech workshop: 10 points
 - National level event: 20 points
 - Sports tournament: 15 points
- System har student ke liye:
 - Total points
 - Category-wise breakdown
 - Progress bar towards requirement (e.g., minimum 10 credits in Technical, 3 in Life Skills, etc.)

(E) Student Engagement Profile (Digital Portfolio)

Har student ke liye ek **profile page**:

- Basic info (USN, branch, year)
- **Timeline of activities** (cards: date, type, role: participant/organizer/winner)
- **Badges / Levels** (Gamification):
 - "Tech Enthusiast" – 5+ tech events
 - "Sports Champ" – 5+ sports events
 - "All Rounder" – participated in ≥ 4 different categories

- Downloadable PDF summary (for placements).

(F) Dashboards & Reports

- **Admin dashboard**
 - Total events this semester
 - Category-wise participation
 - Top active students, top clubs
- **Student dashboard**
 - Current points
 - Missing categories (e.g. "You have 0 credits in Life Skills")
- Export reports (CSV/PDF).

(G) Security & Tamper-Proofing

Hackathon me impress karne ke liye:

- Attendance records:
 - No hard delete – only “marked invalid” with reason.
 - Every change → log entry (who changed, when, old vs new).
- Optional show-off idea:
 - “Hash chain” concept:
 - Har new log entry previous hash + current data se ek hash banata hai.
 - Isse tampering detect kar sakte ho (blockchain jaisa concept, but simple).

Tech Stack Suggestion (Prototype Friendly)

Agar tum web app bana rahe ho:

- **Frontend:** React / plain HTML-CSS-JS (time kam ho to simple rakh sakte ho)
- **Backend:**
 - Node.js + Express ya Python (Django / Flask)
- **Database:** MySQL / PostgreSQL / MongoDB (jo convenient lage)
- **Extras:**
 - JWT based authentication
 - QR code generation library (JS or backend pe)

Hackathon Presentation Angle

Tumhari presentation me ye points highlight karna:

- 1. Problem** – currently scattered attendance / manual registers / no unified view.

2. Solution – single digital ecosystem from admission to graduation.

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3. Innovation

- QR-based smart attendance
- Gamification (badges/levels)
- AI/analytics idea (e.g., system suggest kare: "You're low on sports credits, here are upcoming events")

4. Impact

- Fair recognition of genuine participation
- Better reports for NAAC / NBA / university audits
- Helps students in placements with verified profile.

Aage kya karenge:

Agle message me, main tumhare liye:

- **Complete project plan** (modules + timeline)
- **Database design (tables)**
- **API list (endpoints)**
- **Screens ka rough UI flow**

bhi bana sakta hoon, aur agar chaaho to kisi particular tech stack (e.g. MERN / Django) ke hisaab se code skeleton bhi de dunga.

Bas ab bolo: tum web app banana soch rahe ho ya mobile app ya dono? Aur kaunsa stack tum use karoge – main uske hisaab se direct implementation-level plan bana deta hoon.

Sources

