

## 1-User Story

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### User Story 1: Student Scans QR Code

As a Student, I **want to** mark my attendance by scanning the lecture's QR code, **so that** I am accurately and quickly recorded as present for that class.

#### Acceptance Criteria:

- **Given:** I am logged into the EduTrack app and I am registered for the course.
  - **When:** I scan the valid, time-limited QR code for the lecture while I am in the correct location(lecture hall)
  - **Then:** The system confirms "Attendance Recorded," and my attendance status for that session is updated to "Present."
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### User Story 2: Student Uses Fingerprint

As a Student, I **want to** mark my attendance using my fingerprint on the classroom device, **so that** I have a reliable alternative if I forget my phone or the app has a problem.

#### Acceptance Criteria:

- **Given:** I have my fingerprint registered in the university system, and the lecture session is active.
  - **When:** I place my finger on the in-classroom biometric scanner.
  - **Then:** The system validates my fingerprint and records my attendance for that lecture.
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### User Story 3: Faculty Creates Session

As a Teacher, I **want to** create a new attendance session for my lecture, **so that** the system generates a unique QR code for my students to scan.

#### Acceptance Criteria:

- **Given:** I am logged into the EduTrack faculty interface and have selected my scheduled course.
  - **When:** I click the "Start Session" button.
  - **Then:** The system generates a unique, time-limited QR code and displays it for me to project in the hall.
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## User Story 4: Faculty Views Real-time Summary

As a Faculty/Teacher, I **want to** view a real-time attendance summary for my active lecture, **so that** I can see who is present and who is absent.

### Acceptance Criteria:

- **Given:** I have an active lecture session running.
  - **When:** I navigate to the "Session Dashboard" page.
  - **Then:** The system displays a live-updating list of all registered students, showing their status as "Present" or "Absent."
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## User Story 5: Faculty Makes Manual Correction

As a Faculty/Teacher, I **want to** manually correct a student's attendance record, **so that** I can mark them as "excused" or fix an error.

### Acceptance Criteria:

- **Given:** I am viewing the attendance report for a past lecture.
  - **When:** I select a student's name, choose "Edit Status," and change their status from "Absent" to "Excused."
  - **Then:** The system saves the change and requires me to enter a reason for the manual correction.
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## User Story 6: Academic Affairs Sends Warnings

As an Academic Affairs Department user, I **want to** identify and send warning notifications to students with low attendance, **so that** we can proactively support at-risk students and enforce university policy.

### Acceptance Criteria:

- **Given:** I am logged into the Academic Affairs dashboard.
  - **When:** I run the "Low Attendance Report" for students with attendance below 75%.
  - **Then:** The system generates a list of all students who meet the criteria and allows me to send a pre-defined warning notification to them.
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## User Story 7: Academic Affairs Generates Final Report

As an Academic Affairs Department user, I **want to** generate an end-of-term attendance report for all classes, **so that** I have an accurate, official record for analysis and accreditation.

### Acceptance Criteria:

- **Given:** The academic semester "Fall 2025" has officially ended.
  - **When:** I request the "End-of-Term Summary Report" for "Fall 2025."
  - **Then:** The system generates a comprehensive PDF report detailing final attendance percentages for every student in every course.
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## User Story 8: System Updates FMS

As the Faculty Management System (FMS) Admin, I **want** the EduTrack system to automatically send attendance data to the FMS, **so that** student attendance percentages are always up-to-date without manual data entry.

### Acceptance Criteria:

- **Given:** A faculty member has concluded an attendance session in EduTrack.
- **When:** The session is closed and the data is finalized.

- **Then:** The EduTrack system's integration service automatically pushes the new attendance records to the FMS database, updating the relevant student records.
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## **Checking Our User Stories (INVEST)**

To make sure our user stories are good and easy to work with, we checked them with the **INVEST** model. It's a simple checklist to see if the stories are clear, useful, and ready for development.

**I – Independent:** Our stories don't depend on each other. A developer can build the "Student Uses Fingerprint" feature without waiting for the "Student Scans QR Code" feature to be finished. They are separate tasks.

**N - Negotiable:** These stories are a starting point for a conversation, not a final command. "Faculty Creates Session" says *what* the teacher needs (a QR code) but doesn't say *how* the button must look or where it must be. We can negotiate those details later.

**V – Valuable:** Every story clearly explains *why* it's needed in the "so that" part. For students: "...so that I am accurately and quickly recorded as present." For teachers: "...so that I can see who is present and who is absent." For admin: "...so that we can proactively support at-risk students."

**E - Estimable:** The stories are clear and focused. A developer can read "mark my attendance by scanning" and understand the task well enough to guess if it's a big job or a small one. The "Acceptance Criteria" make this even easier.

**S - Small:** Each story is one small piece of work. Instead of one giant, scary story like "As a teacher, I want to manage attendance," we broke it down into small, simple tasks like "Create Session," "View Real-time Attendance," and "Correct Attendance Record." This is much easier to build.

**T - Testable:** This is the best part. Our "Acceptance Criteria" for every story are the tests. For "Student Scans QR Code," we just follow the "Given-When-Then" steps. If it works as described, the story is 100% done.

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## **Identifying External Events:**

**1-Event:** A Student wants to mark their attendance.

**.Use Case:** Record Attendance via QR

**2-Event:** A Student wants to use the backup attendance method

**Use Case:** Record Attendance via Fingerprint

**3-Event:** A Faculty member wants to start the attendance process for their lecture.

- **Use Case:** Create Attendance Session

**4-Event:** A Faculty member wants to see who is present *during* the lecture.

- **Use Case:** View Real-time Attendance

**5-Event:** An Academic Affairs user wants a list of students with poor attendance.

- **Use Case:** Generate At-Risk Student Report

**6-Event:** A Faculty member needs to fix an error or mark an excused absence.

- **Use Case:** Correct Attendance Record

### **External Event checklist:**

- ✓An external agent wants to perform a transaction
- ✓An external agent wants some information
- ✓An external agent wants to change some data

### **Identifying Temporal Events:**

**1-Event:** The academic term ends, and a final, official report is needed.

**Use Case:** Generate End-of-Term Report

**Trigger:** End of the academic term.

**2- Event:** A lecture session is finalized, and the data must be sent to the FMS.

**Use Case:** Push Data to FMS

**Trigger:** Upon finalization/closure of a lecture session.

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**Temporal Event checklist:**

- ✓ *Internal outputs needed*
- ✓ *Internal statements and documents*
- ✓ *Internal statements and documents*
- ✓ *External outputs needed*
- ✓ *Statements, status reports, bills, reminders*

<b>Event Type</b>	<b>Event (Description)</b>	<b>Stakeholder / Actor</b>	<b>Use Case</b>
<b>External</b>	A Student wants to mark their attendance.	Student	Record Attendance via QR
<b>External</b>	A Student wants to use the backup attendance method.	Student	Record Attendance via Fingerprint
<b>External</b>	A Faculty member wants to start the attendance process for their lecture.	Faculty member	Create Attendance Session
<b>External</b>	A Faculty member wants to see who is present during the lecture.	Faculty member	View Real-time Attendance
<b>External</b>	An Academic Affairs user wants a list of students with poor attendance.	Academic Affairs user	Generate At-Risk Student Report
<b>External</b>	A Faculty member needs to fix an error or mark an excused absence.	Faculty member	Correct Attendance Record

Event Type	Event (Description)	Stakeholder / Actor	Use Case
Temporal	The academic term ends, and a final, official report is needed.	Academic Affairs / Time	Generate End-of-Term Report
Temporal	A lecture session is finalized, and the data must be sent to the FMS.	FMS Admin / System	Push Data to FMS

### Brief use case description

<b>Use Case</b>	<b>Brief Use Case Description</b>
<b>Record Attendance via QR</b>	<i>Student scans the valid QR code, and the system validates the code, location, and time, then updates the student's status to "Present."</i>
<b>Record Attendance via Fingerprint</b>	<i>Student places their finger on the biometric scanner, and the system validates the fingerprint and records their attendance for the lecture</i>
<b>Create Attendance Session</b>	<i>Faculty/Teacher selects their course and clicks "Start Session," and the system generates and displays a unique, time-limited QR code.</i>



<b>Use Case</b>	<b>Brief Use Case Description</b>
<b>View Real-time Attendance</b>	<i>Faculty/Teacher navigates to the "Session Dashboard," and the system displays a live-updating list of students and their attendance status.</i>
<b>Generate At-Risk Student Report</b>	<i>Academic Affairs user runs the "Low Attendance Report," and the system generates a list of all students below the set attendance threshold</i>
<b>Correct Attendance Record</b>	<i>Faculty/Teacher selects a student's record and enters a new status (e.g., "Excused"); the system saves the change and requires a reason.</i>
<b>Generate End-of-Term Report</b>	<i>Academic Affairs user requests the "End-of-Term Summary Report," and the system generates a comprehensive PDF report of all final attendance percentages.</i>
<b>Push Data to FMS</b>	<i>The system is triggered when a faculty member closes a session; it automatically pushes the new attendance records to the FMS database.</i>

## Uml:

