Case Study

Attendance Management System

Abstract

Traditional attendance methods in classrooms, such as calling roll numbers or passing around attendance sheets, have remained unchanged for years. These methods are time-consuming, error-prone, and often result in issues like proxy attendance. Additionally, the manual process generates physical records that are rarely used after the term and contribute to environmental waste when discarded.

Modern technological systems have improved the process but still lack transparency for students and institutions. As a result, students are often unaware of their attendance status until they face problems like being placed on defaulter lists, which can cause complications for educational institutions.

This project aims to address the shortcomings of both traditional and modern attendance systems. By implementing advanced technology, the system will provide greater visibility for both students and institutions, ensuring a smoother and more efficient attendance management process

The system comprises of 4 major modules and their sub modules as follows:

1. Admin Login:
   1. Register the Students.
   2. Delete the Students Record.
   3. Update the Students Record.
   4. Generate the defaulter’s List.
   5. View the defaulter’s List.
   6. View a specific Student’s Attendance.
2. Student Login:
   1. View its overall Attendance.
   2. View its Subject wise Attendance.
   3. View the consolidated Attendance.
   4. View the defaulter’s List.
   5. Reset its Login Password.
   6. Raise a Complaint ticket.
3. Teaching Staff Login:
   1. Verify Student’s Attendance.
   2. View the consolidated Attendance.
   3. View a specific Student's overall Attendance.
   4. View a specific Student's Subject wise Attendance.
   5. View the defaulter’s List.
4. Office Staff Login:
   1. Verify the Defaulters List.
   2. Publish the Defaulters List.
   3. Resolve the Complaint raised.
   4. Register a student.

Epic:

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| --- | --- | --- | --- | --- | --- | --- |
| EPIC ID | AS A <USER> | I WANT TO | USER STORY ID 1 | USER STORY ID 2 | USER STORY ID 3 | USER STORY ID 4 |
| 1 | Student. | Handles the attendance. | As a student I want to view the attendance data. | As a student I want to view the Defaulter’s list. | As a student I want to Raise a complaint regarding the attendance. |  |
| 2 | Teaching Staff | Verify and View Students attendance. | As a Teacher, I want to verify the class attendance. | As a Teacher, I want to view consolidated attendance. | As a Teacher, I want to view the students overall and subject wise attendance. | As a Teacher, I want to view the defaulter’s list. |
| 3 | Office Staff | Manage defaulter list, resolve complaint raised and register student. | As an office staff, I want to verify the defaulters list. | As an office staff, I want to publish the defaulters list. | As an office staff, I want to resolve the complaint raised. | As an office staff, I want to register a student. |

User Stories:

|  |  |  |  |
| --- | --- | --- | --- |
| USER STORY ID | AS A <TYPE OF USER> | I WANT TO <PERFORM TASK> | SO THAT I CAN <ACHIEVE SOME GOAL> |
| 1 | Student. | Handle my attendance data. | View overall attendance list, subject wise attendance list. |
| 2 | Student. | Handle defaulter’s data. | View the defaulter’s list. |
| 3 | Student. | Raise a complaint. | Clarify if there is any mistake in the attendance. |
| 4 | Teacher | Verify the class’s attendance. | Mark the class’s  Attendance. |
| 5 | Teacher | Handle the consolidated attendance. | View the overall class’s attendance. |
| 6 | Teacher | Handle attendance of a specific student. | View the attendance of a specific student. |
| 7 | Teacher | Handle the Defaulter’s list. | View the defaulter’s list. |
| 8 | Office Staff | Manage defaulter list. | Verify the defaulters list. |
| 9 | Office Staff | Handle defaulter list. | Publish the defaulters list. |
| 10 | Office Staff | Resolve complaint raised | Resolve the complaint raised. |
| 11 | Office Staff | Register students. | To register a student. |

Acceptance Criteria:

|  |  |  |  |
| --- | --- | --- | --- |
| EPIC ID | EPIC | USER STORY | ACCEPTANCE CRITERIA |
| 1 | As a Student, I want to handle my attendance data. | Handle my attendance data. | -Ensure the Student is able to Login the app.  -View the overall attendance.  -View the subject wise attendance.  -View the month wise attendance.  -View the consolidated attendance. |
|  |  | Handle defaulter’s data. | -Ensure the Student is able to View the defaulter’s list for the previous month.  -View the defaulter’s list for a specific month. |
|  |  | Raise a complaint. | -Ensure the Student is able to raise a complaint if there is any mistake in the attendance or in the defaulter’s list. |
| 2 | As a Teacher I want to verify and View Students attendance. | Verify the class’s attendance. | -Mark the attendance for the class.  -Modify the attendance if there are any changes.  -Submit the attendance for the day. |
|  |  | Handle the consolidated attendance. | -View the overall class’s attendance.  -View attendance trends over a specific time period (monthly, weekly, etc.). |
|  |  | Handle attendance of a specific student. | -Search for and view the attendance of a specific student.  -View the attendance percentage of a specific student across different subjects. |
|  |  | Handle the Defaulter’s list. | -View the list of students marked as defaulters.  -View defaulters for a specific month or previous months.  -Update the defaulter’s list if necessary (e.g., if a student’s attendance is corrected). |
| 3 | |  | | --- | | As an Office staff, I want to Manage defaulter list, resolve complaint raised and register student. | | Manage defaulter list | -Verify the defaulters list for accuracy.  - Ensure defaulter records are up-to-date and correct.  - Cross-check defaulters based on attendance criteria. |
|  |  | Handle defaulter list | - Publish the defaulters list. - Ensure the defaulters list is shared with relevant stakeholders (teachers, students).  - Ensure the defaulters list is published on time. |
|  |  | Resolve complaint raised | - Resolve the complaint raised by the student or teacher.  - Ensure complaints are addressed within a specific time frame. |
|  |  | Register students | |  | | --- | |  |   - Successfully register a student in the system.  - Ensure all mandatory student details are captured during registration.  - Ensure students receive confirmation of registration. |

Class Responsibility Collaborator:

|  |  |
| --- | --- |
| Student |  |
| -View attendance data (overall and subject-wise).  -View the defaulter’s list.  -Raise complaints regarding attendance. | Teaching Staff  Office Staff |

|  |  |
| --- | --- |
| Teacher |  |
| -Verify and mark class attendance.  -View consolidated attendance.  -View attendance of a specific student (overall and subject-wise).  -View the defaulter’s list. | Student  Office Staff |

|  |  |
| --- | --- |
| Office Staff |  |
| -Verify and mark class attendance.  -View consolidated attendance.  -View attendance of a specific student (overall and subject-wise).  -View the defaulter’s list. | Student  Teaching Staff |

Product Backlog:

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| --- | --- | --- | --- | --- | --- | --- |
| **User Story ID** | **As a <type of user>** | **I want to <perform some task>** | **So that I can <achieve some goal>** | **Priority** | **Sprint** | **Status** |
| 1 | Student | Handle my attendance data | View overall attendance list, subject-wise attendance list | High | 1 | To Do |
| 2 | Student | Handle defaulter’s data | View the defaulter’s list | High | 1 | To Do |
| 3 | Student | Raise a complaint | |  | | --- | |  |  |  | | --- | | Clarify if there is any mistake in the attendance | | Medium | 2 | To Do |
| 4 | Teacher | Verify the class’s attendance | Mark the class’s attendance | High | 1 | In Progress |
| 5 | Teacher | Handle the consolidated attendance | View the overall class’s attendance | High | 1 | To Do |
| 6 | Teacher | Handle attendance of a specific student | View the attendance of a specific student | Medium | 2 | To Do |
| 7 | Teacher | Handle the defaulter’s list | |  | | --- | | View the defaulter’s list |  |  | | --- | |  | | High | 1 | To Do |
| 8 | Office Staff | Manage defaulter list | Verify the defaulters list | High | 1 | To Do |
| 9 | Office Staff | Handle defaulter list | |  | | --- | | Publish the defaulters list |  |  | | --- | |  | | Medium | 2 | To Do |
| 10 | Office Staff | Resolve complaint raised | Resolve the complaint raised | Medium | 2 | To Do |
| 11 | Office Staff | Register students | |  | | --- | | To register a student |  |  | | --- | |  | | High | 1 | To Do |