Stay Ahead

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Seat No. : 278

Project Id : 38

Project Title : Student Ranking Dashboard

1. INTRODUCTION:

1.1. PURPOSE:

This document builds upon the initial planning document and provides a more detailed breakdown of the Student Ranking System requirements.

2. PROJECT OVERVIEW:

- **Project Title:** Student Ranking System.
- **Project Description:** A web application using the MEAN stack to manage student rankings and track their progress in preparation for placements.
- **Project Goals:**
  - Provide a transparent ranking system based on various factors.
  - Facilitate efficient student progress tracking and skill assessment.
  - Enable faculty-student interaction for targeted guidance and feedback.

3. USERS AND ROLES:

3.1. ADMIN:

- **Permissions:** Full system access.
- **Responsibilities:**
    - User Management (create, edit, delete student and faculty accounts).
    - Faculty Allocation to students.
    - Student Data Management (view, edit placement-related information).
    - Feedback analysis (overall and individual student feedback).
    - Event Calendar Management (add, edit, delete events).

3.2. STUDENT:

- **Permissions:** Read-only access to their personal data and dashboards.
- **Responsibilities:**
    - View personal and overall student rankings.
    - View progress reports on skill levels, stages completed, upcoming events, etc.
    - Provide feedback on faculty guidance and overall system experience.

3.3. FACULTY:

- **Permissions:** Access limited to assigned students.
- **Responsibilities:**
    - View assigned students' details.
    - Update student progress on:
    - Skill level attempts and updates.
    - Full-stack development stage completions.
    - Attendance for placement training and mock interviews.
    - Marks awarded in mock interviews and group discussions.

4. FUNCTIONAL REQUIREMENTS:

4.1. USER INTERFACE (UI):

- **Responsive Design:** Ensure the application adapts seamlessly across various devices (desktops, tablets, mobiles).
- **Admin Dashboard:**
  - User Management interface for creating, editing, and deleting student and faculty accounts.
  - Faculty allocation section to assign faculty to students.
  - Dedicated section for student data management (placement information, attendance records, etc.).
  - Feedback analysis dashboard to visualize overall and individual student feedback.
  - Event calendar management to add, edit, and delete upcoming placement-related events.
- **Student Dashboard:**
  - Clear representation of personal ranking alongside a leaderboard for overall student rankings.
  - Dedicated section showcasing personalized skill levels and attempts made for improvement.
  - Visual representation of progress on stages completed in full-stack development.
  - Integrated event calendar displaying upcoming placement-related activities.
  - (Optional) Feedback mechanism to provide input on faculty guidance or system experience.
- **Faculty Dashboard:**
  - List of assigned students with easy access to their profiles.
  - Interface to update student progress on skill level attempts, stage completions, attendance records, and mock interview/group discussion marks.

4.2.FUNCTIONALITY:

- **Authentication:** Implement OAuth 2.0 for secure user login with appropriate access levels (Admin, Student, Faculty).
- **Student Ranking Algorithm:**
  - Define a clear and documented algorithm for calculating student rank based on predetermined weightage for each factor:
    - Placement test percentage.
    - Placement attendance percentage.
    - Skill Levels and attempts (consider the number of attempts and final achieved level).
    - Stages completed in full-stack development.
    - Mock interview and group discussion marks.
- **Data Management:**
  - Securely store and manage student data, including placement-related information, skill levels, attendance records, marks, and feedback.
  - Implement a data model that efficiently stores and retrieves student information for different functionalities.
- **Event Calendar:**
  - Allow Admin to manage an event calendar with upcoming placement-related tests, training sessions, and other relevant activities.
  - Integrate notification system to alert students and faculty about upcoming events.

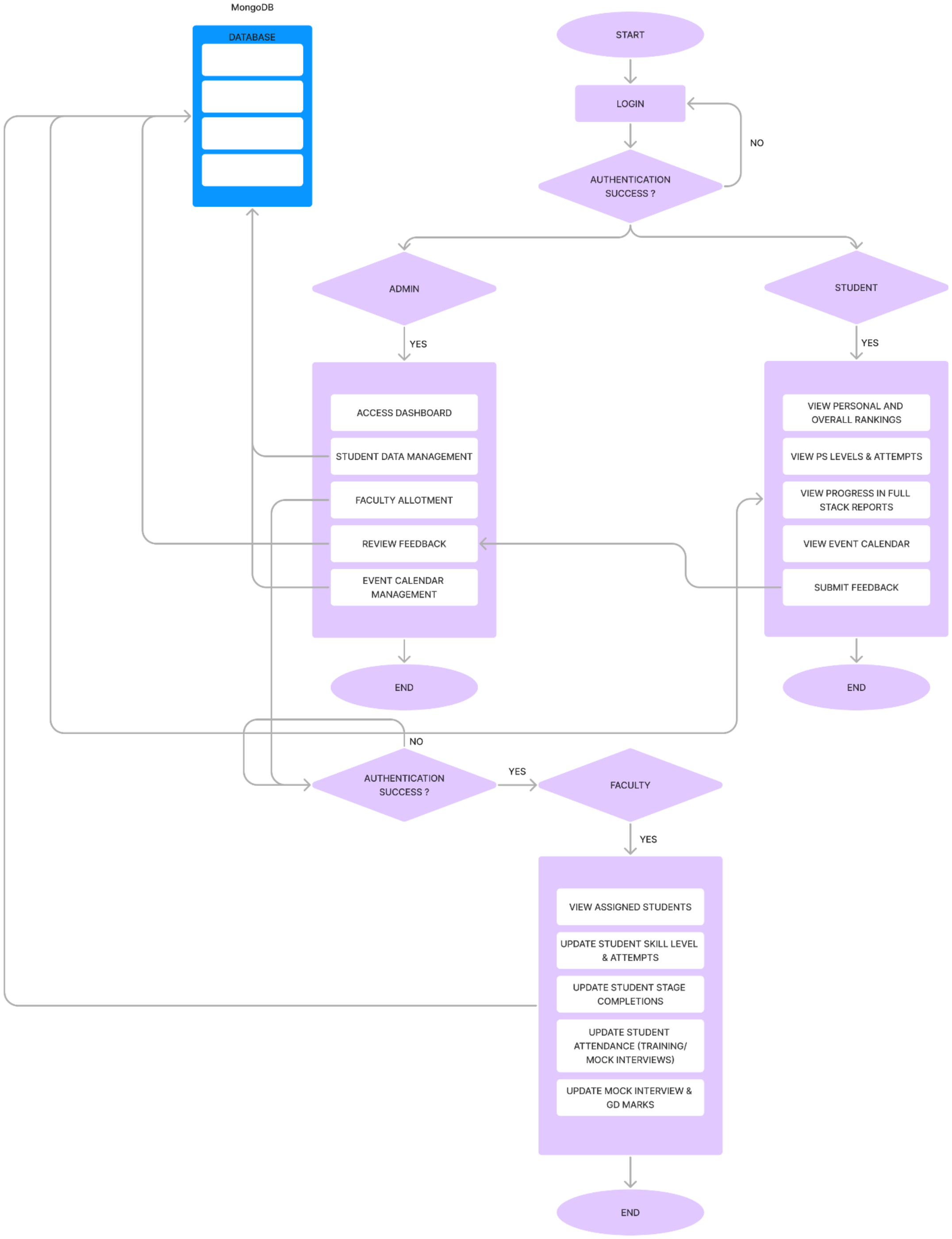
5. NON-FUNCTIONAL REQUIREMENTS:

- **Performance:** The application should be responsive and provide a smooth user experience with minimal loading times.
- **Scalability:** The system should be scalable to accommodate a growing number of students and faculty users.
- **Security:** Implement best practices for user authentication, data encryption, and authorization to protect sensitive student information.
- **Accessibility:** Ensure the application adheres to web accessibility guidelines to be usable by users with disabilities.

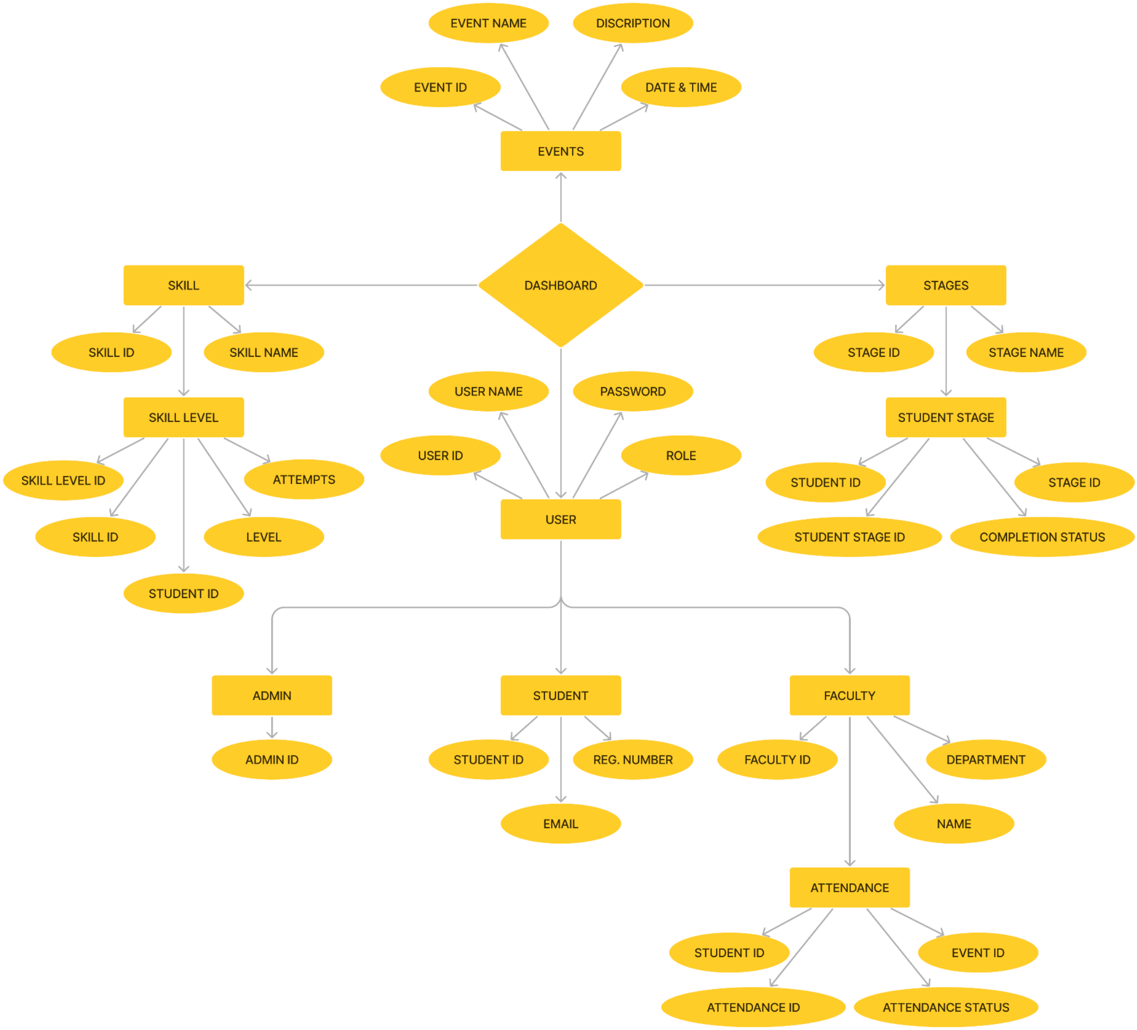
6. TECHNICAL COMPONENTS:

Components	Technology Stack
Frontend	Angular
Backend	Node.js & Express.js
Database	MongoDB
API	REST API (OAuth 2.0)

7. FLOWCHART:


MongoDB
DATABASE
START
LOGIN
NO
AUTHENTICATION SUCCESS ?
ADMIN
STUDENT
YES
YES
ACCESS DASHBOARD
STUDENT DATA MANAGEMENT
FACULTY ALLOTMENT
REVIEW FEEDBACK
EVENT CALENDAR MANAGEMENT
VIEW PERSONAL AND OVERALL RANKINGS
VIEW PS LEVELS & ATTEMPTS
VIEW PROGRESS IN FULL STACK REPORTS
VIEW EVENT CALENDAR
SUBMIT FEEDBACK
END
END
NO
AUTHENTICATION SUCCESS ?
YES
FACULTY
YES
VIEW ASSIGNED STUDENTS
UPDATE STUDENT SKILL LEVEL & ATTEMPTS
UPDATE STUDENT STAGE COMPLETIONS
UPDATE STUDENT ATTENDANCE (TRAINING/ MOCK INTERVIEWS)
UPDATE MOCK INTERVIEW & GD MARKS
END

8. ER DIAGRAM: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