Software Requirement Specification for Student Ranking Dashboard.

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Seat no: 38
Project ID: 38
Project: Student Ranking Dashboard.

TECHNICAL COMPONENTS:

Component	Tech Stack
Front end	React js
Back end	Node js,express js
Database	mongoDB
API	openAPI

PROBLEM STATEMENT:

Educators struggle to efficiently analyze student data and create insightful rankings. Traditional methods are time-consuming.This makes it more difficult for teachers to identify struggling students and track progress. A student ranking dashboard is needed to address this. It would provide a centralized platform with customizable criteria, data visualizations. This would provide students more insight about their knowledge and in what part they need

improvement,they can work hard on that part which would enhance the quality of learning opportunities and results.

PURPOSE:

The purpose of this project is to develop a student ranking dashboard that improves the way management analyzes student data and creates rankings. This will be achieved by providing a more efficient, informative, and actionable tool compared to traditional methods.

SCOPE:

This project targets a student ranking dashboard that enhances educator efficiency in data analysis and student ranking. Administrators will securely upload student data like test scores and attendance (optionally including additional details). Educators will leverage the dashboard's visualizations to understand student rankings based on customizable criteria, including weighted test scores and attendance.

USERS:

1.STUDENT: Students can access the student ranking dashboard to view student performance data like overall rank, placement training attendance, placement FA percentage.

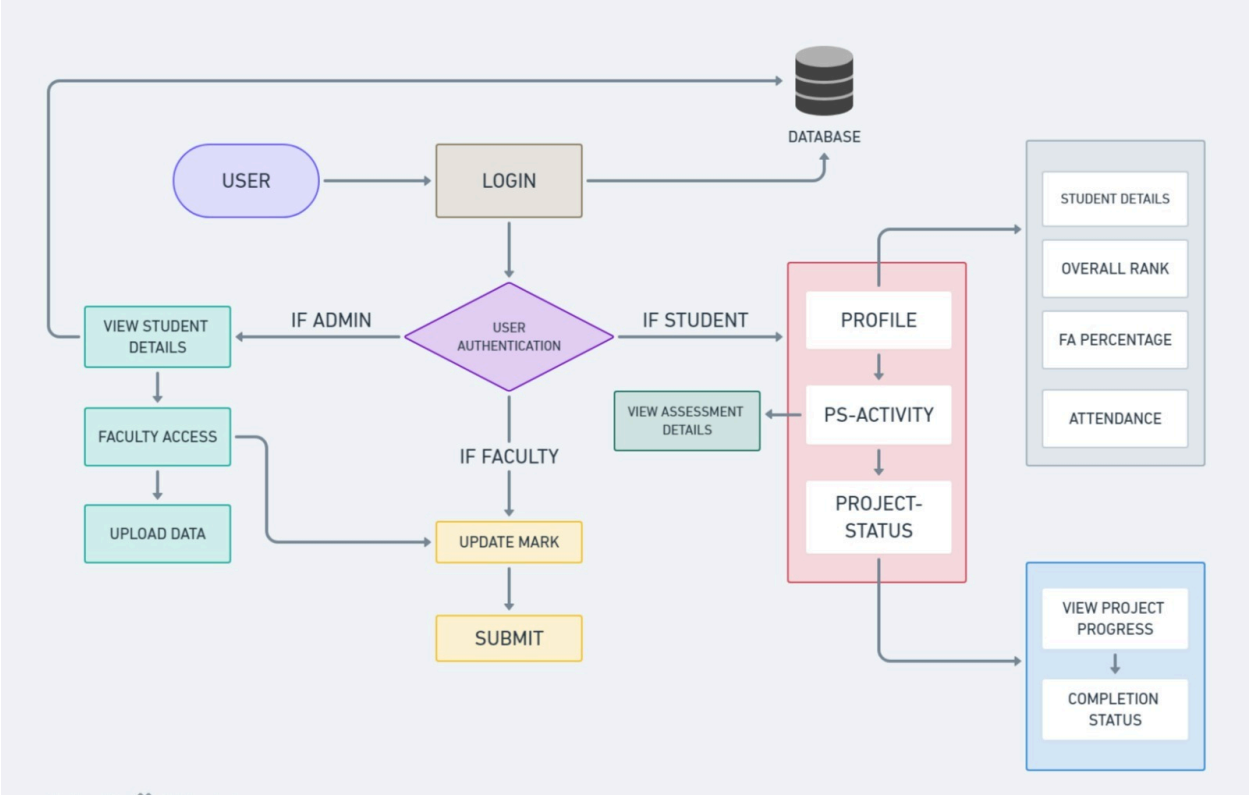
2.ADMIN: Admins will be responsible for securely uploading student data into the system. This could include Test scores, Attendance records. Admins can manage uploaded data, ensuring its accuracy and completeness.Admins also have the additional responsibility of creating and managing faculty accounts with appropriate access levels to give marks for the review conducted.

3.FACULTY: Conduct review for each stage of the software project and update the marks of the students who are allotted to them in the dashboard.

FEATURE:

- Admins can securely upload student data like test scores and attendance records.
- Admins can create and manage user accounts for faculties with appropriate access levels.
- The dashboard automatically generates rankings based on the chosen criteria. Dashboards define ranking criteria by weighting factors like test scores and attendance based on learning objectives.
- Students can see their rank with corresponding test score and attendance percentages, alongside their PS-activity and the software project status.
- Admins can manage uploaded data, ensuring its accuracy and completeness.

WORKFLOW:



FUNCTIONAL REQUIREMENTS:

1.User authentication:

- Users should be able to log in securely using their credentials (username/password).
- Differentiate between two user roles: students and administrators.
- Only administrators should have permission to update student data.

2.Student Ranking Algorithm:

Develop an algorithm to calculate student rankings based on:

1. Programming level completion.
2. Time taken to complete programming levels.
3. Attendance records.
4. Test scores.

3. Student Dashboard Interference:

Students can view their overall rank, their details like placement FA percentage, placement training attendance, PS- levels completed and their number of attempts, software project status.

4. Admin Dashboard Interference:

Admin can also view the student details like their PS-level completion status,project status, they can only upload the data in the database like mark records, attendance sheet, any other datasets.

Admin should also provide access to the faculty to conduct review for the project and update marks in the dashboard.

5. Faculty Dashboard Interference:

If the faculty login into the dashboard, they will be able to see the students allotted to them and they have options to update marks for a particular student as the admin has provided access to the faculty.

NON-FUNCTIONAL REQUIREMENTS:

1.Performance:

The dashboard should load quickly and respond to user interactions within a reasonable timeframe, even with a large number of concurrent users.

2.Security:

The system should ensure the confidentiality, integrity, and availability of student data.Access to sensitive information should be restricted to authorized users only, with proper authentication and authorization mechanisms in place.

3.Scalability:

The system should be able to handle a significant increase in the number of students and data volume without a significant degradation in performance.It should be scalable horizontally to accommodate future growth in user base and data storage requirements.

4.Reliability:

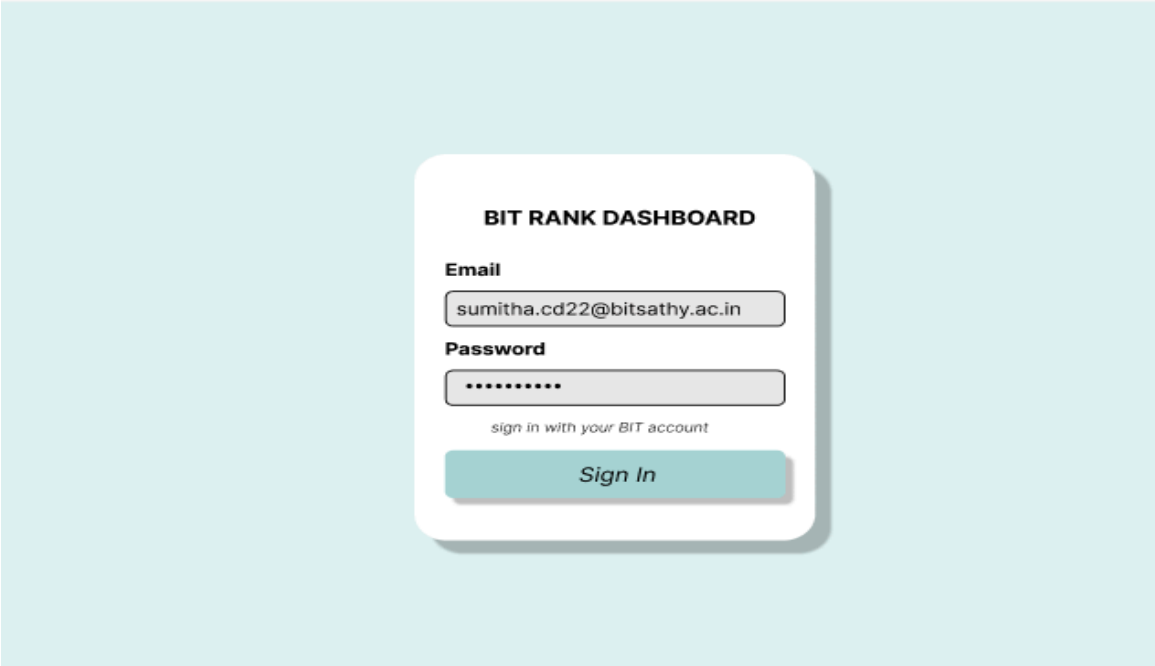
The dashboard should be highly reliable, with minimal downtime and service interruptions.It should have built-in mechanisms for fault tolerance and recovery in case of system failures or errors.

5.Usability:

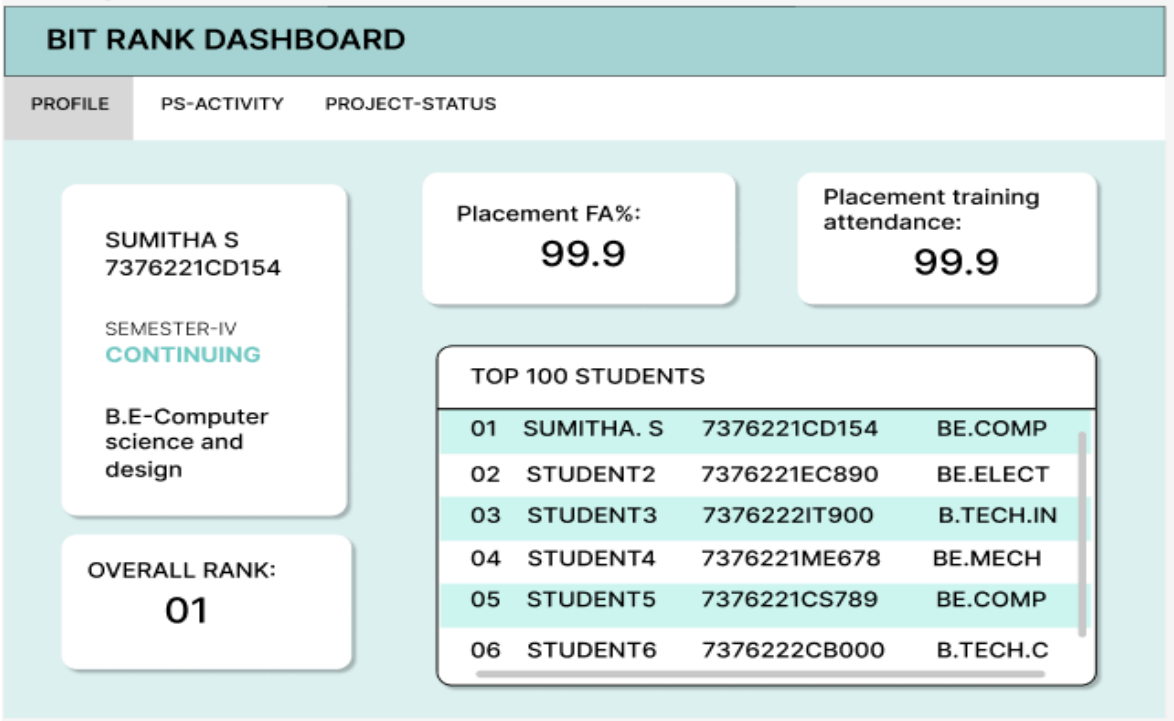
The dashboard should be highly reliable, with minimal downtime and service interruptions.It should have built-in mechanisms for fault tolerance and recovery in case of system failures or errors.

PROTOTYPE OF THE PROJECT:

1. Login Form:



2.Student's View:



BIT RANK DASHBOARD

PROFILE | PS-ACTIVITY | PROJECT-STATUS

PS-LEVELS COMPLETION STATUS:

LEVEL	ATTENDED DATE	ATTEMPT	RESULT
01	24/03/2024	First	COMPLETED
02	26/03/2024	First	NOT COMPLETED
02	27/03/2024	Second	COMPLETED

DS-LEVELS COMPLETION STATUS:

LEVEL	ATTENDED DATE	ATTEMPT	RESULT
Not yet completed			

BIT RANK DASHBOARD

PROFILE | PS-ACTIVITY | PROJECT-STATUS

STAGE-1 Planning and requirement gathering

INCHARGE: Mr.Prabakar S J
DEADLINE: 12/03/2024
RESULT: COMPLETED

STAGE-2 Design and UI/UX Prototyping

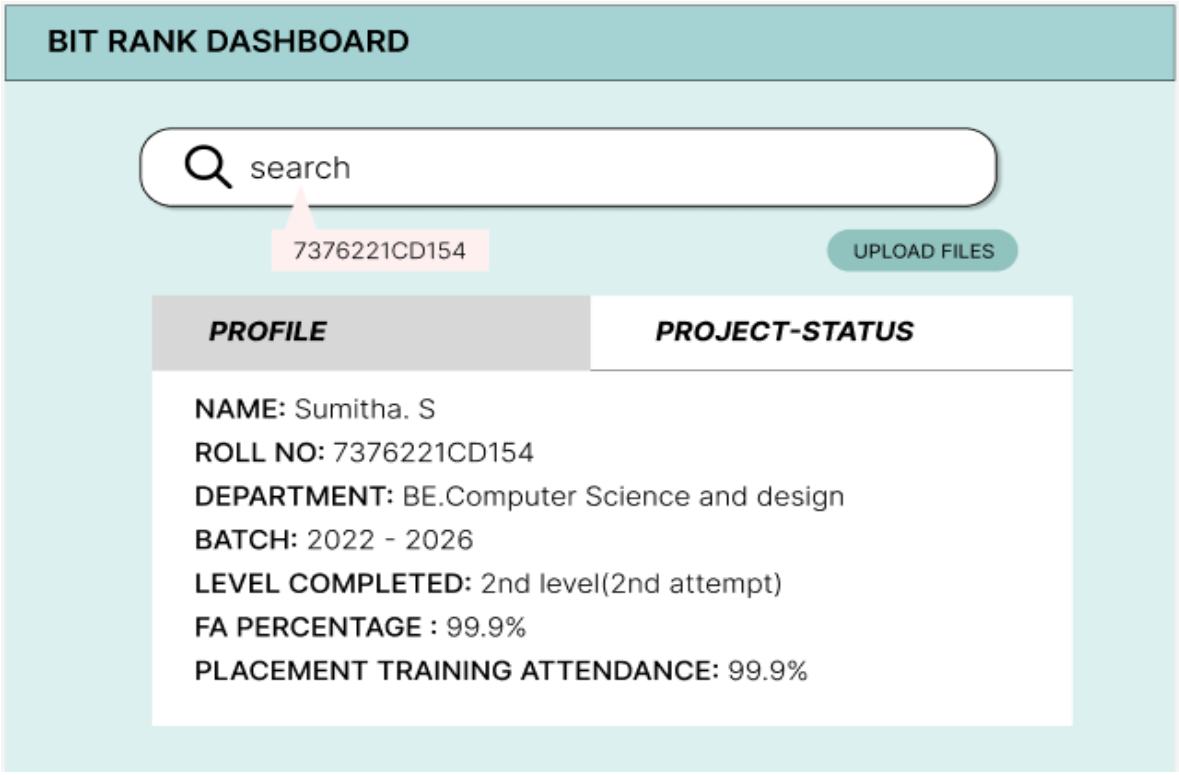
STAGE-3 Database Design and Implementation

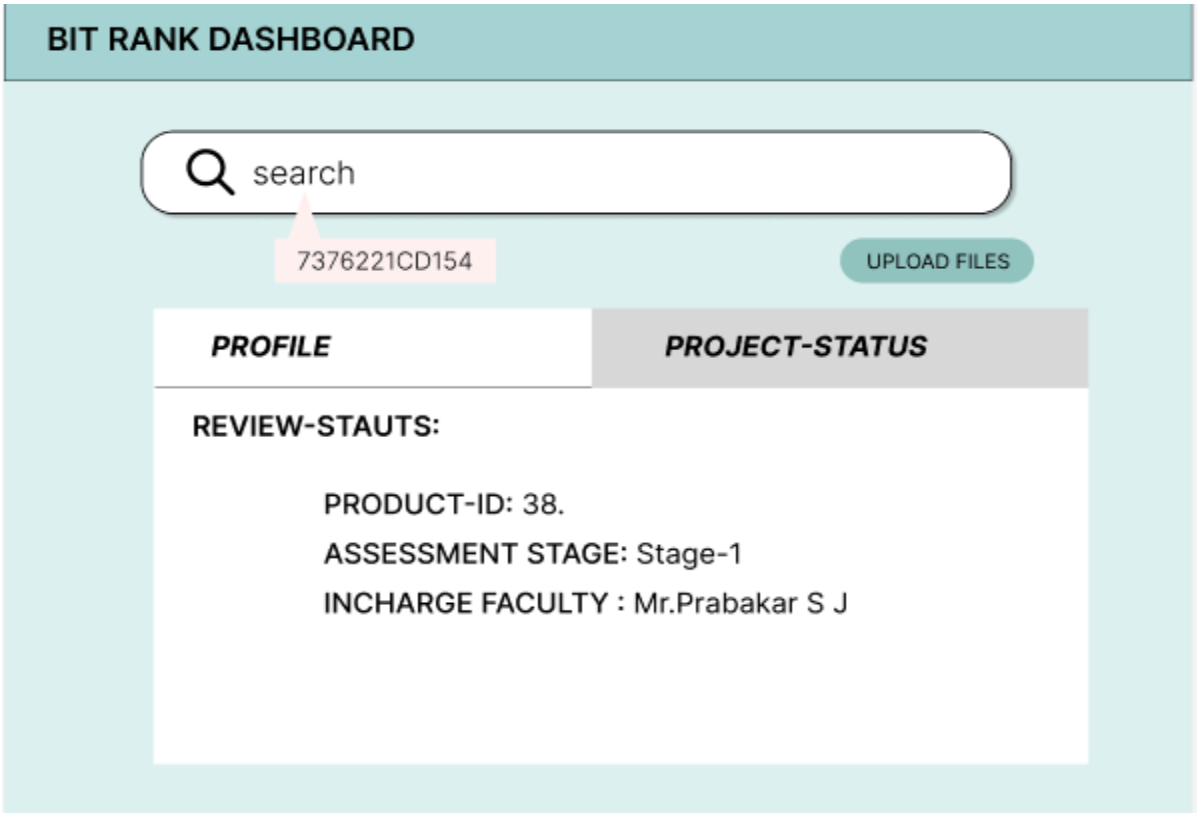
STAGE-4 Backend Development

STAGE-5 Integration and testing

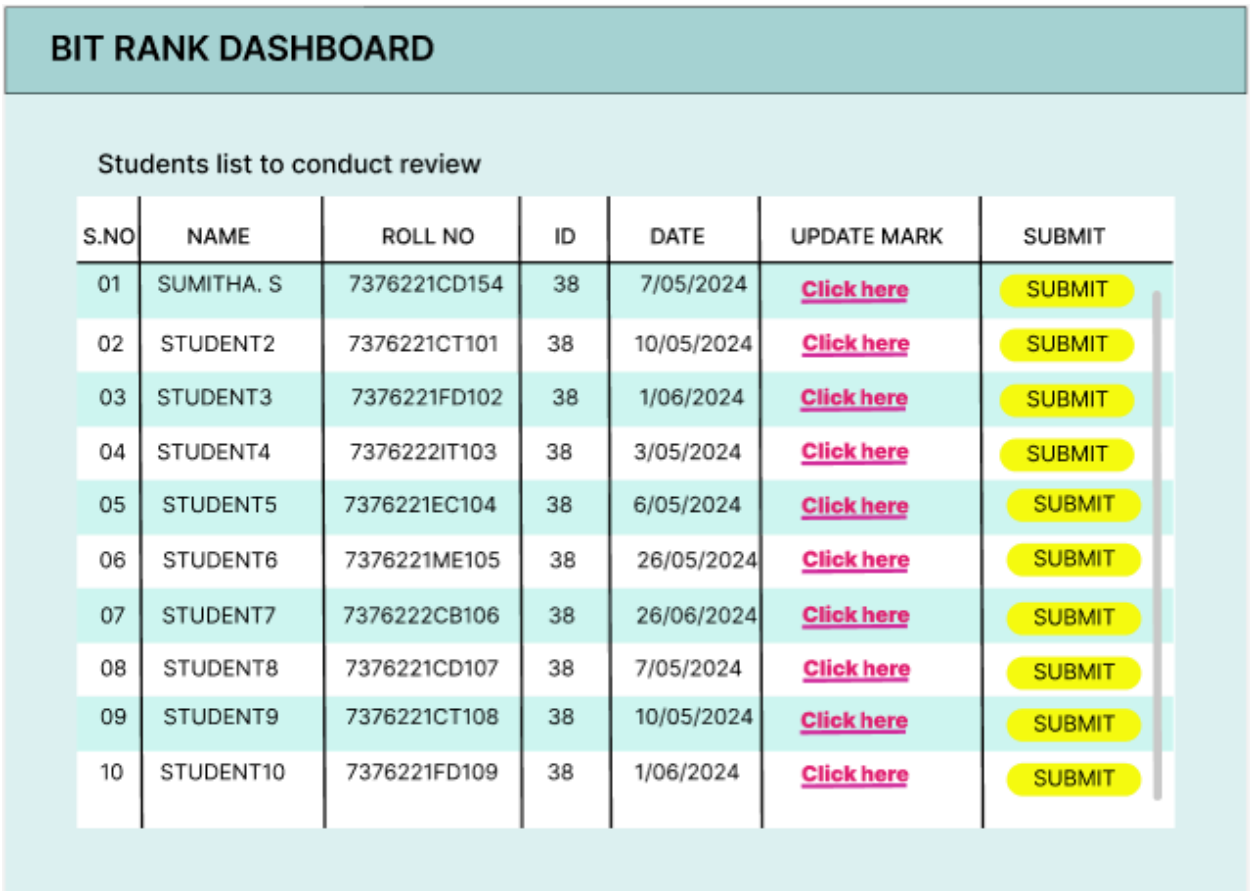
STAGE-6 Deployment

3.Admin's View:





4.Faculty's View:



BIT RANK DASHBOARD

Students list to conduct review

S.NO	NAME	ROLL NO	ID	DATE	UPDATE MARK	SUBMIT
01	SUMITHA. S	7376221CD154	38	7/05/2024	Click here	SUBMIT
02	STUDENT2	7376221CT101	38	10/05/2024	Click here	SUBMIT
03	STUDENT3	7376221FD102	38	1/06/2024	Click here	SUBMIT
04	STUDENT4	7376222IT103	38	3/05/2024	Click here	SUBMIT
05	STUDENT5	7376221EC104	38	6/05/2024	Click here	SUBMIT
06	STUDENT6	7376221ME105	38	26/05/2024	Click here	SUBMIT
07	STUDENT7	7376222CB106	38	26/06/2024	Click here	SUBMIT
08	STUDENT8	7376221CD107	38	7/05/2024	Click here	SUBMIT
09	STUDENT9	7376221CT108	38	10/05/2024	Click here	SUBMIT
10	STUDENT10	7376221FD109	38	1/06/2024	Click here	SUBMIT