

Student Details Reporting and Visualization

GROUP:03

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Version	Date	Description
1.0	14/01/2025	Initial draft outlining the problem, objectives, and ideas.
2.0	21/01/2025	Added more preliminary ideas and objectives for further clarity.

Contents:

- 1. Problem Statement
- 2. Objectives
- 3. Preliminary Ideas
- 4. More Ideas

(i) Problem Statement:

- Managing student placement data is time-consuming without a proper system.
- The current system lacks reporting and visualization capabilities, making it difficult to analyze trends and generate insights
- A solution is needed to make reporting and visualization simple, efficient, and user-friendly.

- This project aims to generate dynamic reports and visualizations based on department, duration, and other parameters.
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(ii) Objectives:

- Develop a reporting and visualization tool dependent on the data generated by **Project 2**.
 - Enable users to query data by department, year, company, and other filters.
 - Generate dynamic visualizations, including bar charts, pie charts, and other graphical representations.
 - Offer interactive features such as tooltips and filtering for better usability.
 - Provide flexible visualizations supporting different query combinations.
 - Ensure the application is responsive and scalable for large datasets.
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(iii) Preliminary Ideas:

- 1. Placement and Internship Analysis:**
 - a. Bar and pie charts to show placement data by company, department, and year.
 - b. Internship trends over time or across departments.
 - c. Visualize placement outcomes, like the percentage of students reaching various stages.
 - 2. Event Participation Trends:**
 - a. Heat maps and stacked bar charts for technical and cultural event participation by year and type.
 - 3. Department-Wise Insights:**
 - a. Visualize department-wise participation in workshops, cultural events, and sports.
 - 4. Comparison Features:**
 - a. Charts for comparing placement rates, event participation, or publication stats across departments or years.
 - 5. Dashboard Overview:**
 - a. Summary of total placements, top hiring companies, and major events with high participation.
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(iv) More Ideas:

- Heat maps showing placement intensity across departments and companies.
- Bubble charts representing package ranges and number of placements.
- Interactive tooltips showing detailed statistics on hover.
- Customizable color schemes for different visualization types.
- Mobile-responsive design for viewing reports on different devices.