

Step 1: Defining Metrics

Each professor will be evaluated based on seven key metrics that cover the various aspects of teaching effectiveness and classroom experience. These metrics are:

Difficulty of Class : Measures the academic rigor and challenge level presented by the professor's courses.

Helpfulness: Assesses the extent to which the professor is approachable, responsive, and supportive of student needs.

Clarity of Instruction: Evaluates how well the professor communicates concepts, assignments, and expectations.

Feedback Quality: Gauges the usefulness, timeliness, and constructiveness of feedback provided by the professor on student work.

Accessibility: Measures the professor's availability outside of class for consultations, office hours, and additional support.

Step 2: Importance and Weighting

Each metric contributes to the overall evaluation of a professor, but not all metrics are weighted equally. The system allows for the weighting of each metric to be adjusted based on institutional priorities or student feedback. For example, a college emphasizing cutting-edge teaching methods might weight 'Innovation in Teaching' more heavily than other metrics.

Step 3: Collecting and Normalizing Data

Data for each metric will be collected through student evaluations, peer reviews, and other relevant sources. Scores for each metric will be normalized on a scale (e.g., 1 to 100) to ensure consistency across different measures and to facilitate comparison.

Step 4: Calculating the Overall Score

The overall score for each professor is calculated by taking the weighted average of the normalized scores for each metric. The formula for this calculation is as follows:

$$\text{Overall Score} = \sum_{i=1}^n (\text{Normalized Score}_i \times \text{Weight}_i)$$

Where n is the number of metrics, Normalized Score is the score for each metric, and Weight is the weight assigned to each metric.

Step 5: Ranking Professors

Once the overall scores are calculated, professors can be ranked from highest to lowest score. This ranking creates a leaderboard-style display that allows students to quickly identify the highest-rated professors according to the criteria that matter most to them.

Step 6: Implementation

To implement this system, a backend PHP script will interact with a database containing professors' scores across all metrics. This script will perform the calculations and generate a JSON output listing professors along with their overall scores and rankings.

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Step 7: Usage and Feedback

Students can use this system to choose professors whose teaching styles and strengths match their learning preferences. Additionally, the system provides valuable feedback to professors and academic departments, highlighting areas of success and opportunities for growth.

Conclusion

This detailed breakdown clarifies how the professor rating system works, from defining evaluation metrics to calculating and comparing overall scores. Inspired by the structure and approach of Jiewen's quiz, this system is designed to enhance the course selection process, ensuring a better match between students' learning preferences and professors' teaching styles.