

# Student Rating System for Uniform Campus Placements

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**Abstract:** Student Rating System is a system that will rate students by taking into account various parameters like academics, certifications, extra-curricular, social connect, etc. Industries select the parameters that suit their needs and provide weight-age for the same that will be used to generate a rating for each registered student. Students can also use the system to upgrade their technical skills. System provides Computer Adaptive Test which throws questions according to test taker's ability helping students raise their knowledge. An Automated Answering System where students can ask doubts for which system fetches the best available answer. Moreover, system generates "Smart Suggestions" by analyzing the available student data and then suggests students with the same. Thus the system serves as a joint platform for uniform campus placement and technical upgrade of student.

**Keywords:** Answerbot, Computer Adaptive Test, Natural Language Processing, Unique Student Rating, Smart Suggestions.

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## Introduction

The main aim of this project is to develop a system which will automate the existing campus placement process for easy recruitment of students. Using this solution, the problem of finding the right candidate with right skill set will be easily resolved. Today, in this world of competition the ratio of people applying for the job to the jobs available in the industries has increased fourfold as compared to the previous 5 years. Also, it is difficult for the management to take a decision on hiring a candidate amongst a set of candidates with similar skill set. So, the project also aims to help in decision making in such situations by extracting the candidate's available social data on the web such as his social connect on websites like Facebook, LinkedIn, etc. Thus, the team of management is assisted in taking important decisions which not only helps to decide on a candidate based on his skills but also taking a decision whether the candidate fits well in the company's culture. Along with this, the project serves a single platform for technical guidance for the students.

## Problem Definition

Current system of recruitment requires colleges as the basis for selecting the students. It is hard for the industries to measure the abilities of so many students so quickly. Also, colleges may become a barrier in the recruitment of skilled personnel as it may not have the right affiliations. Student rating system not only solves this problem but the students with right skills are able to get best job opportunity according to their abilities irrespective of the college.

## Motivation

What happens today is, in the emerging world of competitions, industries not only have criteria for students but also for colleges. As a result good candidates residing in those colleges may not get an equal opportunity to unleash their talent with good companies and thus lag behind. Student Rating System will eliminate this problem and thereby give equal opportunity to all students. Also, industries find it difficult to find a perfect candidate for the position. Thus, development of this system would facilitate a solution to all of these problems.

## Objectives

The major objectives of the system are:

- To improve current recruitment process
- To update students technically
- Subjective tests can help students write appropriate answers
- Customize the selection parameters to be considered for recruitment
- Provide candidate's social data at hand to judge over a candidate
- AnswerBot which solves queries of students

### Existing System

Each college has a training and placement officer associated with it who maintains the complete data of its students. This is the person who represents all the students from his college and there is no direct interaction between the students and industries. Also, industries have a standard set of criteria for colleges. There is a possibility of good a candidate lagging behind just because of college.

### Proposed workflow

The make the entire process automatic and efficient, fig. 1 depicts an entire workflow of the proposed pipeline. At the beginning, student registers himself by entering his marks, personal details, etc. His records are then sent to TPO of its respective college for validation. The next phase is the one in which a company personnel can select a set of criteria according to his needs and provide weight-age for each of them. The system then generates a Unique Student Rating for each of its student based on the parameters selected and the students are arranged according to their ratings.

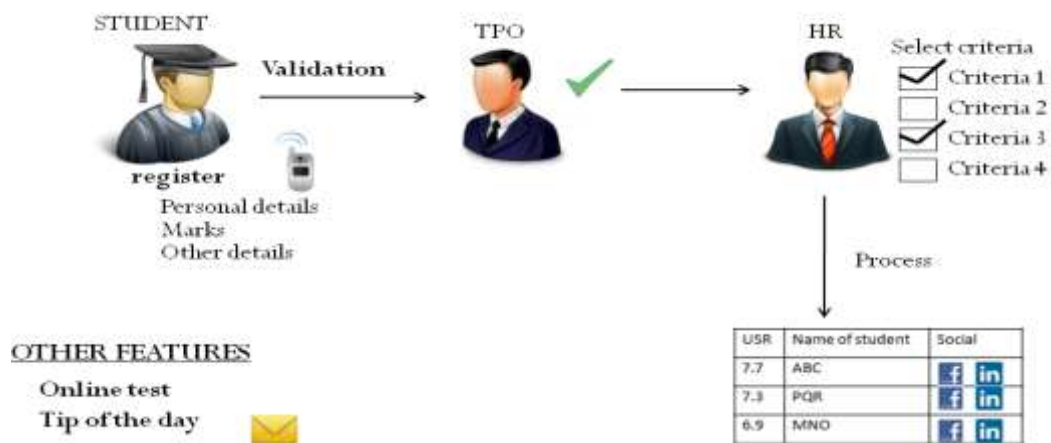


Fig. 1: Overall system workflow

### Unique Student Rating Algorithm

The unique Student Rating Algorithm is used for generating rankings of students. The algorithmic steps used to do this job are as follows:

- System Administrator defines parameters and sets their weight-age.
- Company HR Cell selects certain parameters according to the requirements.
- Check whether the sum of percentage of weight-ages is exactly equal to hundred.[5]
- If the condition is not satisfied, go to error
- System fetches student data that matches the selected parameters and stores the data in a vector.[3][4]
- System calculates USR value based on inputs using the following formula :
- For a given student and each criteria :

$$USR=0$$

$$\text{newRating} = \frac{\text{initial data} \times \text{industry's rating}}{100}$$

$$USR= USR + \text{newRating}$$

- The vector is now sorted in descending order using LSD Radix Sort.
  - Each student can now be viewed in decreasing order of the USR
- error: Pop the error message up.

**Sample USR Calculation**

**Table 1: Student Sample Data**

Student ID	Attendance (Out of 100)	Academics(Total Aggregate)	Certification	Paper Presentations
100	90	50	20	0
101	70	80	60	60
102	90	70	0	0

**Company’s Sample Input**

Processing for USR:  
 COMPANY “XYZ”:  
 Input Parameters and their weightage:  
 Attendance: 20  
 Academics: 70  
 Certification: 10  
 Paper Presentation: not chosen

**Table 2: Rating Output for Company XYZ**

Student ID	Attendance (Out of 100)	Academics(Total Aggregate)	Certification	Paper Presentations	Total	Rank
101	$90 \times 20 / 100 = 18$	$50 \times 70 / 100 = 35$	$0 \times 10 / 100 = 0$	Not selected	53	3
102	$70 \times 20 / 100 = 14$	$80 \times 70 / 100 = 56$	$60 \times 10 / 100 = 6$	Not selected	87	1
103	$90 \times 20 / 100 = 18$	$70 \times 70 / 100 = 49$	$0 \times 10 / 100 = 0$	Not selected	67	2

COMPANY “ABC”:  
 Input Parameters and their weightage:  
 Attendance: 50  
 Academics: 50

**Table 3: Rating Output for Company “ABC**

Student ID	Attendance (Out of 100)	Academics(Total Aggregate)	Certification	Paper Presentations	Total	Rank
101	$90 \times 50 / 100 = 45$	$50 \times 50 / 100 = 25$	Not selected	Not selected	70	3
102	$70 \times 50 / 100 = 35$	$80 \times 50 / 100 = 40$	Not selected	Not selected	75	2
103	$90 \times 50 / 100 = 45$	$70 \times 50 / 100 = 35$	Not selected	Not selected	80	1

**Answer Bot**

The next module that is being implemented in the project is named “Answer Bot”. This module stands useful to the students who have doubts on system specified topics. The system already has a database of questions along with keywords and the answers to those questions.[5] The processing that happens when the question is asked is that, the is parsed to form SQL query which is fired on the database and the answer to the question is returned to the student asking the same.[1][2] The entire processing that takes place can be explained as below :

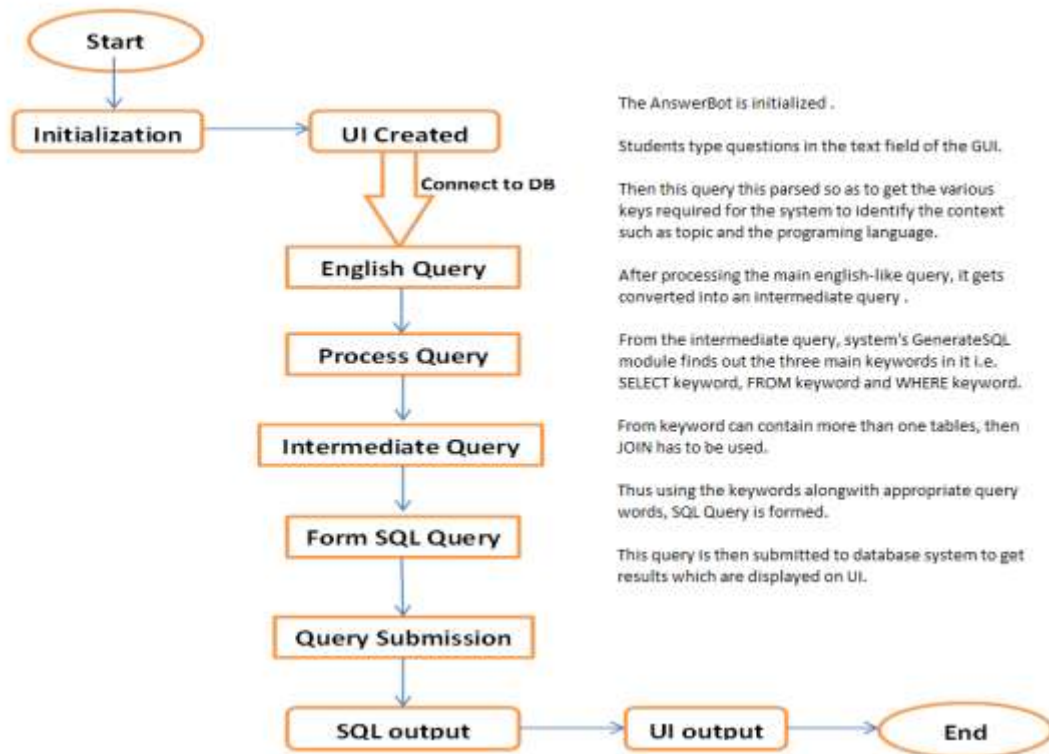


Fig. 2: Answer Bot Workflow

### Software Requirement Specification

1) **Operating Environment :**

- a) **Client Side :** O.S and Java based web browser
- b) **Server Side:** Windows O.S

2) **Software quality attributes :**

Quality attributes are the overall factors that are affecting the system’s run time behavior, system design and user experience. These are as follows:

- **Availability:** The system is readily available to the users
- **Performance:** As the database and application servers are separated, there is much increase in processing power which increases the system performance.
- **Manageability:** It is very easily to handle the system. An admin control is given for vigilance.
- **Security:** The system is secure as Https protocol is used.

#### Technical Specifications

1) **Advantages :**

- Helps industries find a perfect candidate
- Facebook and linkedin integration
- Extracting social data for the benefit of analysis of employee
- Students get technically updated

2) **Applications :**

- Improvement in current recruitment system
- The system can be used to reduce the efforts of organizations to hire candidates.
- Generated USR can be used as input for various selection procedure in college

### References

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