Project : Help Faculty

Step 1 : Creating a dummy question paper which exactly represents the actual one, in this scenario this is going to be a google form

Step 2: Analyse the question paper, with the given instructions there are 5 multiple choice question which carry 1 mark, 5 descriptive questions which carry 2 mark, and a coding question which carry 10m, total question paper is of 25 marks.

Step 3: Created a file upload method for coding question, where the student can upload the .java file to the google form, and the project can analyse the code and even execute it, by checking the similarity of the result of the code and the actual solution, the student will be allocated the marks.

Step 4: We created a dummy data which are responses of 5 students to all the questions in the question paper, it will be used for checking for the performance and if it is more like a real world question paper checking algorithm or not. This data collection is done by using Artificial Intelligence (Chat GPT 4.o Model)

Step 5: Plan for evaluating the questions, I have divided the questions evaluation techniques into 3 (based on the most effective and accurate evaluation). For the multiple choice questions, the faculty first need to give the answers to the given MCQ questions, and the answer given should be same as the options give or if else copy and paste, then the student’s option is checked for equality, if same, the marks will be incremented or else it will continue to next.

Step 7: For the descriptive questions, we are going to use a pre-trained GPT model which is performing very well the BERT model, so we pre-trained the model using the existing java content of RGUKT, Nuzvid and other good java books for better and quality knowledge. So based on that the model will tell us the evaluation marks for each question out of 2 marks and those marks will be incremented for each question.

Step 8: For the coding question, as we are going to intake the .java file, we are open it , analyse the code, execute it and save the output. The faculty needs to provide the output for evaluation. The student needs to print the result same as the given output. The marks scheme are, 6 marks for code quality, 4 marks for the output matching (based on the similarity). After calculating the marks, they will be incremented. And additional feature here is we build another GPT model which can analyze the code quality, and the output similarity calculation, and even the reason for decrement of the marks for each student, with a detailed explanation of what’s wrong in their code.

Step 9: We are going to create a separate Dataframe for storing the marks, and then for the 3 sections i.e, the multiple choice questions, descriptive questions and the coding question, we are going to evaluate seperately and increment the marks in the marks dataframe at the repective question for each student, we are additionally going to add 2 columns, that is the Reason column why their marks have been deducted in the coding question, what mistakes they have done, and so far like a small review on their coding solution, another column their submitted code output, their output will be shown may be it is a valid output or an error. Therefore student can analyze the error and make him correctly by himself.