AN AUTOMATED MULTIPLE CHOICE QUESTIONS GENERATION USING NATURAL LANGUAGE PROCESSING

Abstract:

Examinations and Assessments are undergoing a tremendous revolution. Universities, colleges, and other educational institutes are increasingly shifting towards online examinations. The pattern of assessment is majorly shifting towards the objective assessment i.e. MCQ based, it is very hard to construct and requires a considerable amount of time for setting numerous questions. There's a growing need for a cost effective and time-efficient automated MCQ generation system. In this project the text is first summarized using the BERT algorithm, and accordingly sentence mapping is done for generating MCQs. In order to generate choices for the questions, distractors are generated using word net (A lexical database for English). As the BERT algorithm has much better performance over other legacy methods as well as it can process a large amount of data in less time, it will enhance the speed of generating MCQs from given text.

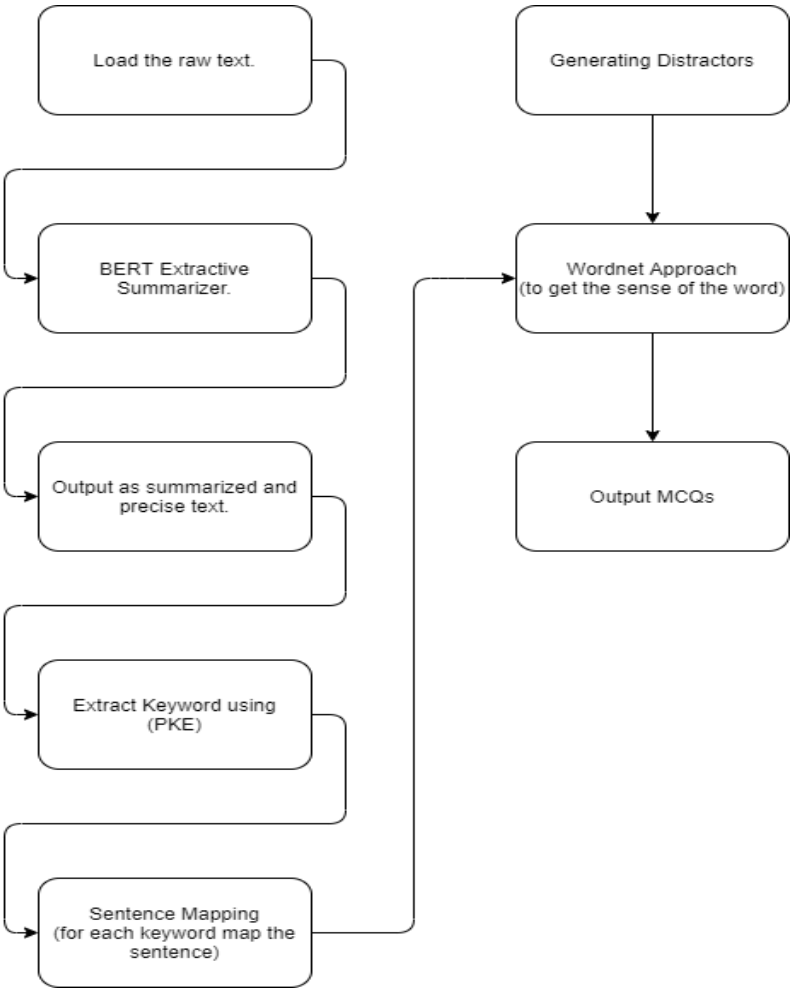
Introduction:

All institutes, colleges, and schools have been switched to online learning. Assessment is an essential tool to test the knowledge of the students. And the pattern of the assessment has changed from subjective based to objective based i.e. Multiple Choice Questions (MCQs). So the problem is, it is very difficult for the teachers to set the questions as well as for the students who are preparing for competitive exams. The current method involves the setting of questions manually which requires a lot of human intervention and time. So there is a growing need for a system that can create questions with ease and less amount of time and requires less human effort. This project tells about a system that generates questions automatically. In Automated MCQ Generator, questions are generated automatically with the help of NLP. The text of any domain is provided as input to the system which is then summarized using the BERT algorithm. BERT (Bidirectional Encoder Representation from Transformers) is a deep learning-based technique for natural language processing, a pre-trained model from Google.

Now the keywords are selected from the summarized text using the python keyword extractor (PKE) and accordingly mapping of a keyword is done with a sentence. This keyword will be one of the options of MCQ. Now the main task is generating relevant distractors. Distractors are generated using the word net approach. Word net is an API used to get the correct sense of the word. So the good and relatable distractors are generated. This system solves the problem of manual creation of questions and reduces time consumption and cost.

Proposed System:

In this project, the detailed step-by-step process of creating MCQs is discussed. In the proposed system, questions are generated from summarized text which is given as input. After summarization of text, there are different steps involved to create questions and distractors. The different stages involved for generating MCQs.



Existing System:

All institutes, colleges, and schools have been switched to online learning. Assessment is an essential tool to test the knowledge of the students. And the pattern of the assessment has changed from subjective based to objective based i.e. Multiple Choice Questions (MCQs). So the problem is, it is very difficult for the teachers to set the questions as well as for the students who are preparing for competitive exams. The current method involves the setting of questions manually which requires a lot of human intervention and time.