DESIGN AND ANALYSIS OF SOFTWARE SYSTEMS

Project Synopsis Document

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Description

With the implementation of NEP and shift of focus towards holistic education, our traditional textbooks, teaching methods and assessment strategies are becoming obsolete. Our project aims at generating assessments that incorporate external factors like background, students' interests, practical application, moral responsibility in addition to the course content to ensure a holistic understanding of any topic. The questions will not only test textbook knowledge but also test how well the student can apply it to real-life scenarios, enabling them to relate to the subject in an interactive space. With such promising advantages,

designing such questions is very time-consuming and demanding for the instructor, thus motivating us to use LLM's potential to do this task.

Profile of Users

The web application is targeted to assist the school teachers in conducting meaningful examinations to test a student's understanding of a subject. The current project is aimed to be designed for a single end user (i.e, school teachers). However, [Beyond the scope of the current project] the user base can be extended to cater to a wider range of users (like students) as this application could be integrated into a larger system.

Usage Model and Diagrams

The web application will consist mainly of 3 pages:

1. Form for choosing the topic and context for assessment generation
   a. In this page we will implement text boxes, selectors and other UI elements for taking input on title/topic, the number of questions to be generated and the type of assessment (MCQ-based or short answer based)
   b. The page would allow file uploads for context material (should be able to handle multiple files).
2. Output showing the questions generated with editing options
   a. There will be an input field to enter the name of the assessment (inorder to save it for future reference).
   b. The questions will be rendered as distinct UI elements, each of which would be editable.
   c. In the case of MCQs, the options are also rendered along with the corresponding check boxes.
   d. On this page we will have an option to export the generated assessment as PDF after any edits are made.

3. Historic context showing the assessments previously generated for reference
    a. Each record has a name and time of generation associated with it.
    b. Any of these records can be rendered on page 2.

The user is expected to select their specifications through the form be it topic(s), a specific field of application or background of students. They can also upload reference materials like portions of textbook pdfs to further highlight the context. The output would be a set of Multiple Choice and Short Answer Questions according to the requirements filled in the form which can be edited and saved by the user to be revisited.

Following is a diagram demonstrating working of application from a user perspective: