20MCA245 MINI PROJECT

SYNOPSIS

Submitted By

Name of Student: VISHNU PRASAD C P

Roll No : 60

Title : AI-powered MCQ Generation

Synopsis approved: Yes / No

Name and Signature of Guide with date: Dr. John C John

Slides approved: Yes / No

Name and Signature of Guide with date: Dr. John C John

Any Other Remarks:

Name and Signature of Coordinators with date:

Dr. Reena Murali/Dr. Sangeetha Jose

Name and Signature of HOD with date:

Dr. Reena Murali

20MCA245 MINI PROJECT

SYNOPSIS

AI-powered MCQ Generation

Abstract

The AI-powered MCQ Generation is a web application for creating and managing multiple-choice questions (MCQs). Using advanced AI and natural language processing (NLP) question setters can easily add questions including options and the answers, or let AI generate them. Built with Python Flask and MySQL, it efficiently manages data and categorizes questions by subject. Moderators verify questions for accuracy and Test takers can log in to take quizzes, view scores, and report errors. Additionally, they can input text in various formats including PDF to generate questions with the help of AI models and add these questions to their local pool.

Scope and Relevance

The AI-powered MCQ Generation is a free resource for students preparing for entrance exams, offering a cost-effective alternative to existing systems. It enables question setters to add multiple-choice questions including options and the answers. The same thing can be done by the AI models. It is especially useful for enhancing test preparation and understanding of various subjects. Automating the option and solution generation process saves time for question setters and offers a personalized study resource for test takers. The application's ability to categorize questions by subject and handle user-generated content from PDFs makes it versatile for various educational levels and subjects.

Requirement Analysis

The application will be developed using Python Flask and MySQL, allows question setters to add MCQs and generate options and solutions using advanced NLP techniques with libraries such as NLTK, spaCy, and Transformers. The application features a user-friendly interface built with Flask and Bootstrap, where test takers can attempt MCQs, track progress, and review questions and answers. PDF content extraction is done using Python libraries like PyPDF2.

Development Methodology

The application begins by allowing question setters to add MCQ questions, after which AI generates options and solutions for these questions and categorizes them by subject. Moderators can log in, verify questions, options, and answers, and add them to the global pool. When test takers log in, they can solve MCQ questions, view their scores and solutions, and report any errors. Question setters can log in to correct reported errors. Additionally, test takers can input pdf and generate questions with the help of AI models and add these questions to their local pool.

Keywords: Python Flask, NLTK, spaCy, PyPDF2

Name and Signature of Student with Date:

VISHNU PRASAD C P

26/07/24