



# QuizMentor :Adaptive Quiz Generation and Intelligent Assessment Platform

*BSDSF21A006 M.Shahzad , BSDF21A014 Zohaib Iqbal*

*BSDSF21A017 M.Azhar , BSDF21A025 M.Ahmad , BSDF21A035 M.Azeem*

## ***Supervisor: Sir Tariq Butt***

*Department of Data Science*

## Abstract

# ?

## Introduction

This project **aims** to develop a web-based personalized quiz generation platform to enhance student learning through dynamic quizzes, real-time feedback..The **motivation behind** this work is to promote personalized education, reduce exam anxiety, and boost learning efficiency by providing quizzes and feedback tailored to each student's strengths and weaknesses

To achieve this, we have used **Natural Language Processing (NLP)**, **Large Language Models (LLMs)**, **Flask** and **PostgreSQL**.



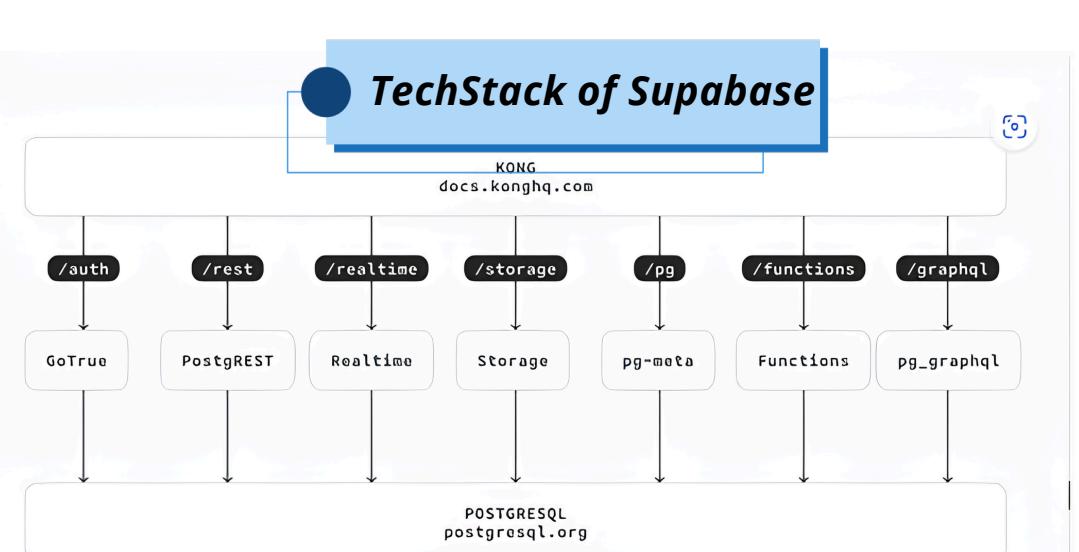
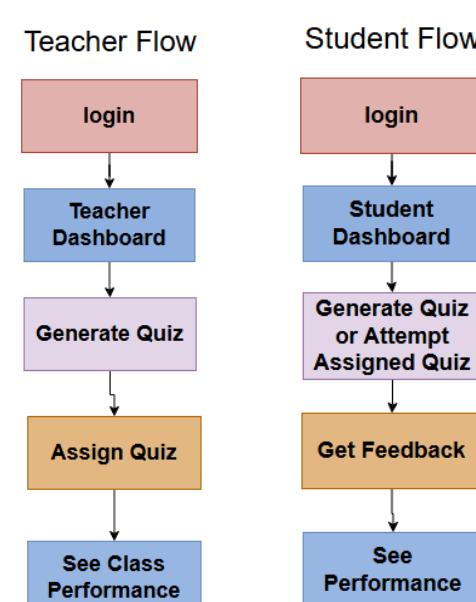
## What we Achieved ?

The project enables **teachers to create and assign quizzes** while tracking class performance through dashboards. It also generates personalized quizzes based on student-provided topics, monitors individual progress, and offers targeted feedback. Results show improved engagement, meaningful feedback for students, and better visibility for teachers, addressing key gaps in personalization and performance tracking.

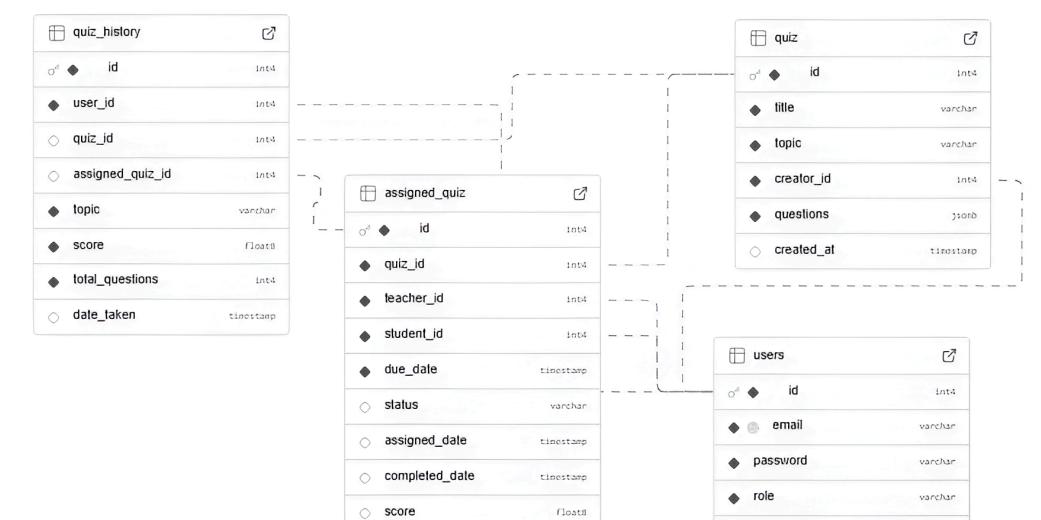
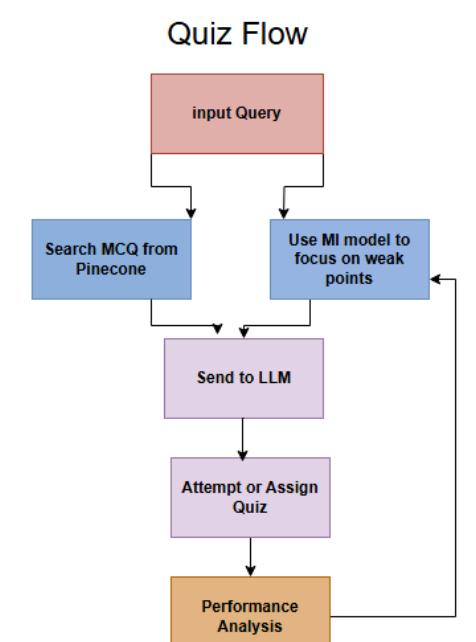
In **conclusion**, the project successfully delivers an intelligent quiz generation and evaluation platform, , integrating more detailed performance analytics, and supporting collaborative learning modules.

## Objective

- Develop a web-based platform for personalized quiz generation.
  - Allow teachers to create, assign, and monitor quizzes through dashboards.
  - Provide dynamic quizzes based on user-provided topics.
  - Allow Students to prepare for MCQ based Quizes to highlight weak topics.
  - Deliver real-time feedback highlighting student strengths and weaknesses.
  - Track student performance over time with detailed analytics.
  - Enhance student engagement and reduce exam anxiety through adaptive learning support.



# Database Schema



## **Results /Analysis**



- **User Friendly Interface**
  - Developed a **secure, authenticated** system with separate logins for teachers and students to ensure **data privacy**.
  - Enabled teachers to create, edit, and manage quizzes generated by LLMs, including setting due dates before assignment.
  - Students' performance improved through **personalized feedback** and relevant topic recommendations based on quiz results.
  - Through **Teachers Dashboard**  
Teachers can easily assign quizzes to selected students through a simple and intuitive interface.



- After completing a quiz, students can view detailed **performance reports**, and teachers can monitor overall class performance.
  - Designed interactive graphs and bar charts to **visualize student progress** for both individual students and teachers.
  - Highlighted **top-performing students** and areas where teaching strategies can be improved based on analytics.
  - Automated **notifications are sent to students** through emails to remind them about assigned quizzes and approaching deadlines.

## References

- REFERENCES**

  1. Research paper on MCQGen: A Large Language Model-Driven MCQ Generator for Personalized Learning. ( CHING NAM HANG AND PEI-DUO YU 1,(Member, IEEE), CHEE WEI TAN 2,(Senior Member, IEEE), 3)
  2. Online Quizzes In A Virtual Learning Environment As A Tool For Formative Assessment. (Journal of Technology and Science Education JOTSE, 2016 – 6(3): 188-208 – Online ISSN: 2013-6374 – Print ISSN: 2014-5349  
<http://dx.doi.org/10.3926/jotse.217>)

A horizontal row of five metal binder holes punched through a white lined notebook page. The page has blue horizontal lines and a pink vertical margin line on the left side.

# Acknowledgement

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