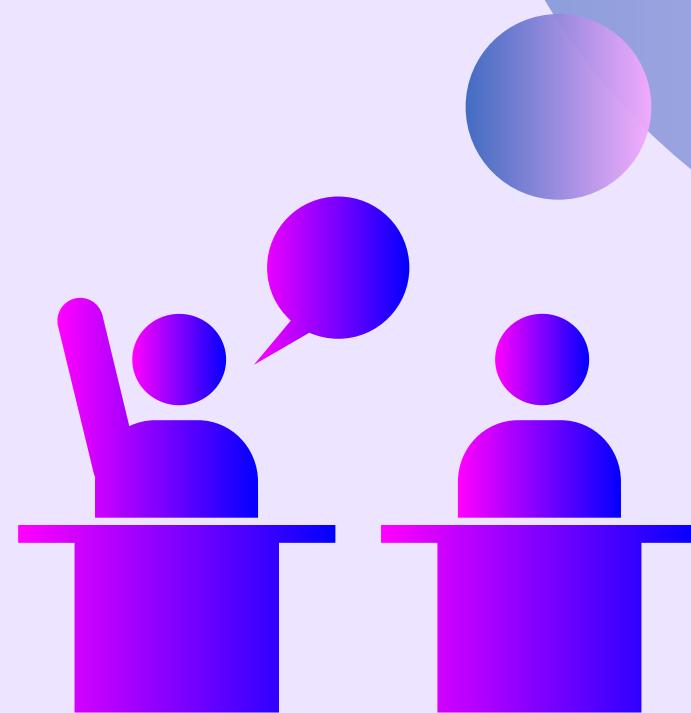


Team-1

Smart Quizzzer

Adaptive AI based Quiz
Generator





Introduction

- Smart Quizzer is an adaptive, AI-powered quiz generation platform designed to transform the way learners engage with educational content.
- Unlike traditional quiz tools that rely on static, pre-defined questions, Smart Quizzer dynamically generates personalized assessments using advanced Natural Language Processing (NLP) techniques.
- The system empowers students, educators, and self-learners by tailoring quizzes to individual performance levels, preferred difficulty, and learning style, making assessments more interactive, effective, and learner-centric.
- With support for multiple question types (MCQs) and multilingual capabilities, this open-source solution ensures inclusivity and flexibility across diverse knowledge domains.

Project Overview

USERS FEATURES(LEARNERS, EDUCATORS)

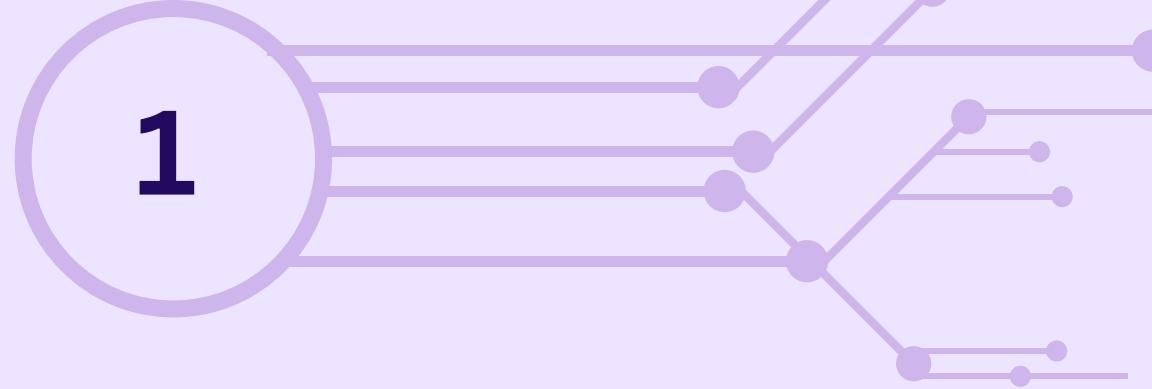
- ADAPTIVE QUIZZES: DIFFICULTY AUTOMATICALLY ADJUSTS TO YOUR PERFORMANCE
- MULTI-FORMAT QUESTIONS: GENERATE MCQS
- INSTANT FEEDBACK & REVIEW: IMMEDIATE RESULTS AND EXPLANATIONS POST-QUIZ
- PROGRESS DASHBOARD: VIEW ANALYTICS ON STRENGTHS, QUIZ HISTORY, AND LEARNING PROGRESS
- UNLOCKING LEVELS: PROGRESSION SYSTEM WHERE HIGHER DIFFICULTY UNLOCKS AS YOU ACHIEVE SET MILESTONES

Project Overview

ADMINISTRATORS FEATURES

- SYSTEM HEALTH MONITORING: TRACK AI MODEL PERFORMANCE, SERVER STATUS, AND API HEALTH.
- USER & ROLE MANAGEMENT: MANAGE USER PERMISSIONS (E.G., STUDENTS, TEACHERS).
- PLATFORM CONFIGURATION: SET GLOBAL SETTINGS, MANAGE INTEGRATIONS (E.G., WITH LMS LIKE CANVAS).
- DATA & SECURITY: HANDLE DATA BACKUPS, AUDIT LOGS, AND COMPLIANCE (GDPR, FERPA).
- CONTENT MODERATION: REVIEW AND REMOVE INAPPROPRIATE USER-GENERATED CONTENT.



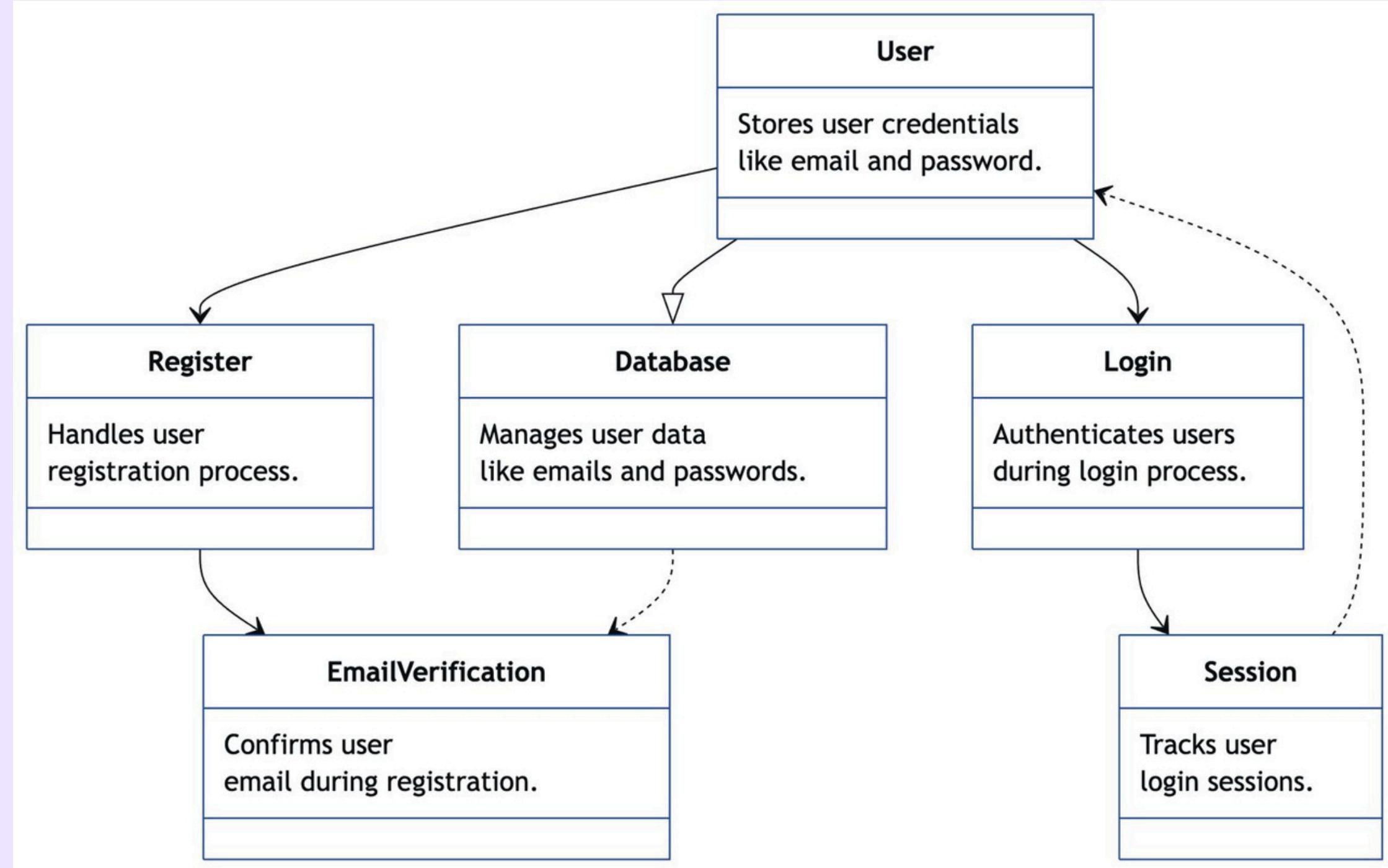


1

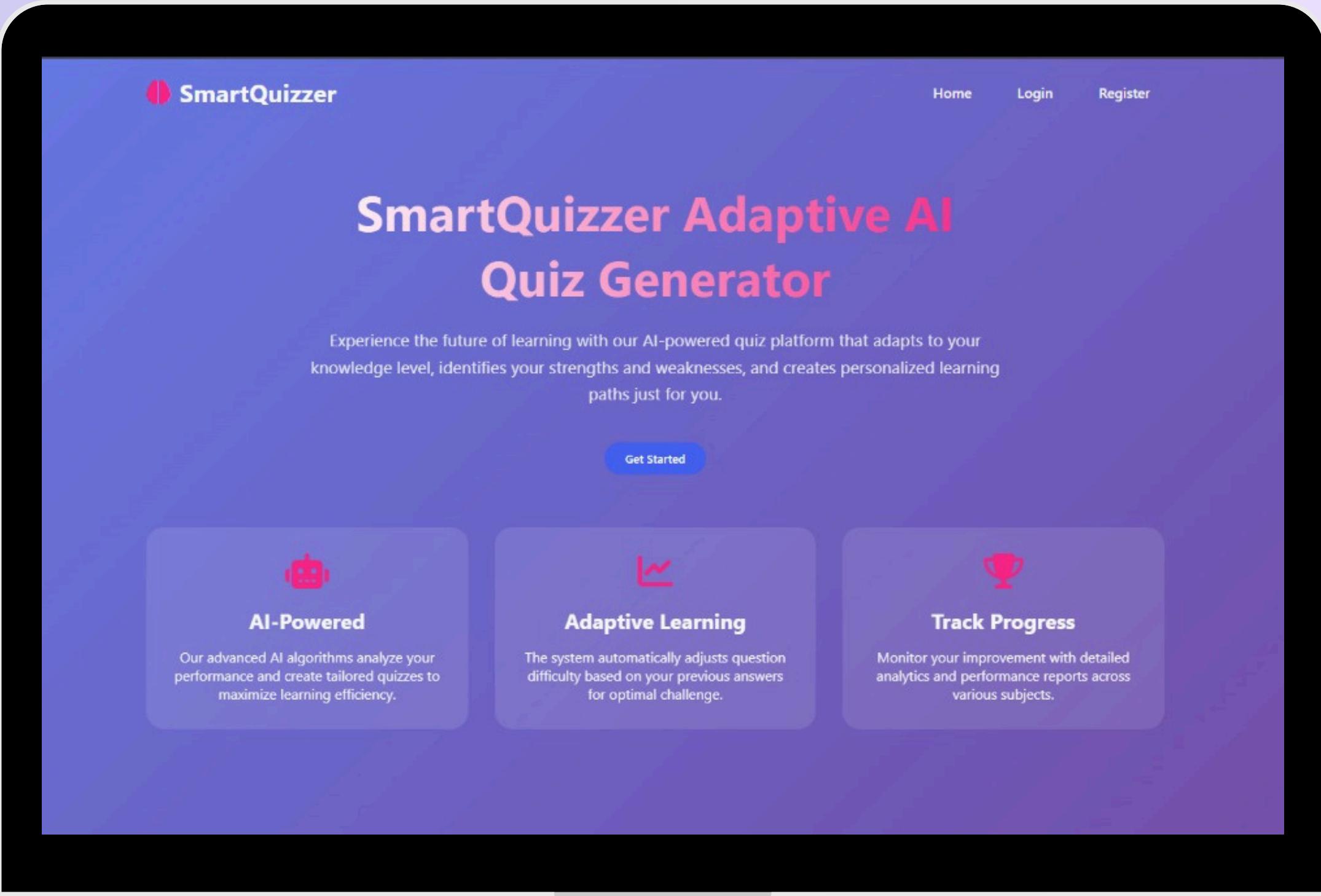
Milestone

- Implemented a user registration and login system, enabling new users to create accounts and existing users to securely access the platform.
- Integrated email verification and password authentication using Django's built-in features to ensure security and validity of user accounts.
- Configured MySQL database to securely store and manage user credentials and related account information.
- Designed and developed a user-friendly homepage that introduces new users to the platform, clearly explaining its purpose, features, and how it works.

Class Diagram



Home Page



The image shows the homepage of the SmartQuizzer Adaptive AI Quiz Generator. The page has a dark blue background with a light blue diagonal gradient. At the top left is the logo "SmartQuizzer" with a red circular icon. At the top right are links for "Home", "Login", and "Register". The main title "SmartQuizzer Adaptive AI Quiz Generator" is centered in large white font. Below it is a subtitle: "Experience the future of learning with our AI-powered quiz platform that adapts to your knowledge level, identifies your strengths and weaknesses, and creates personalized learning paths just for you." A "Get Started" button is located below the subtitle. The page features three callout boxes: "AI-Powered" with a robot icon, "Adaptive Learning" with a graph icon, and "Track Progress" with a trophy icon. Each box contains a brief description of the feature.

SmartQuizzer

Home Login Register

SmartQuizzer Adaptive AI Quiz Generator

Experience the future of learning with our AI-powered quiz platform that adapts to your knowledge level, identifies your strengths and weaknesses, and creates personalized learning paths just for you.

Get Started

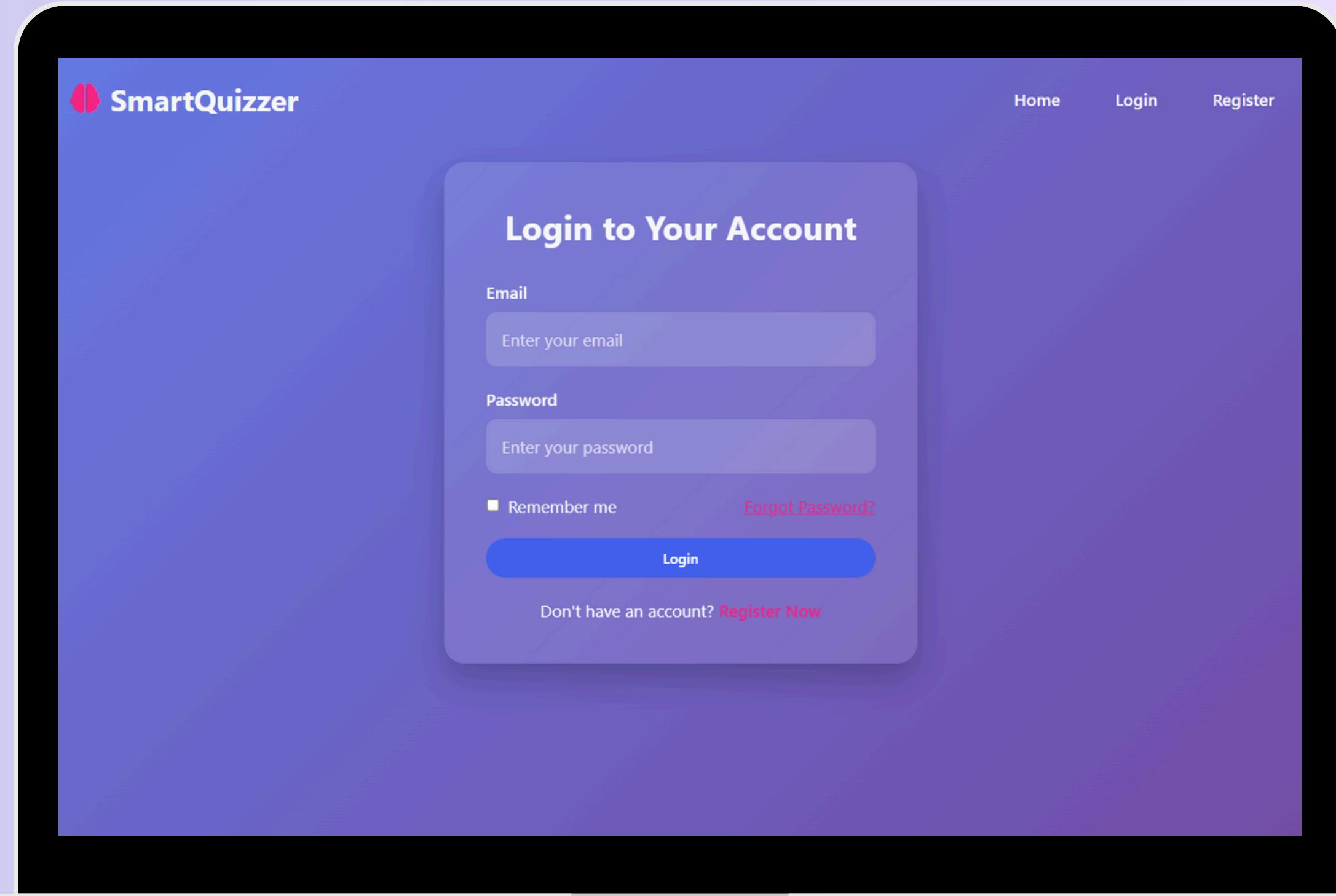
 **AI-Powered**
Our advanced AI algorithms analyze your performance and create tailored quizzes to maximize learning efficiency.

 **Adaptive Learning**
The system automatically adjusts question difficulty based on your previous answers for optimal challenge.

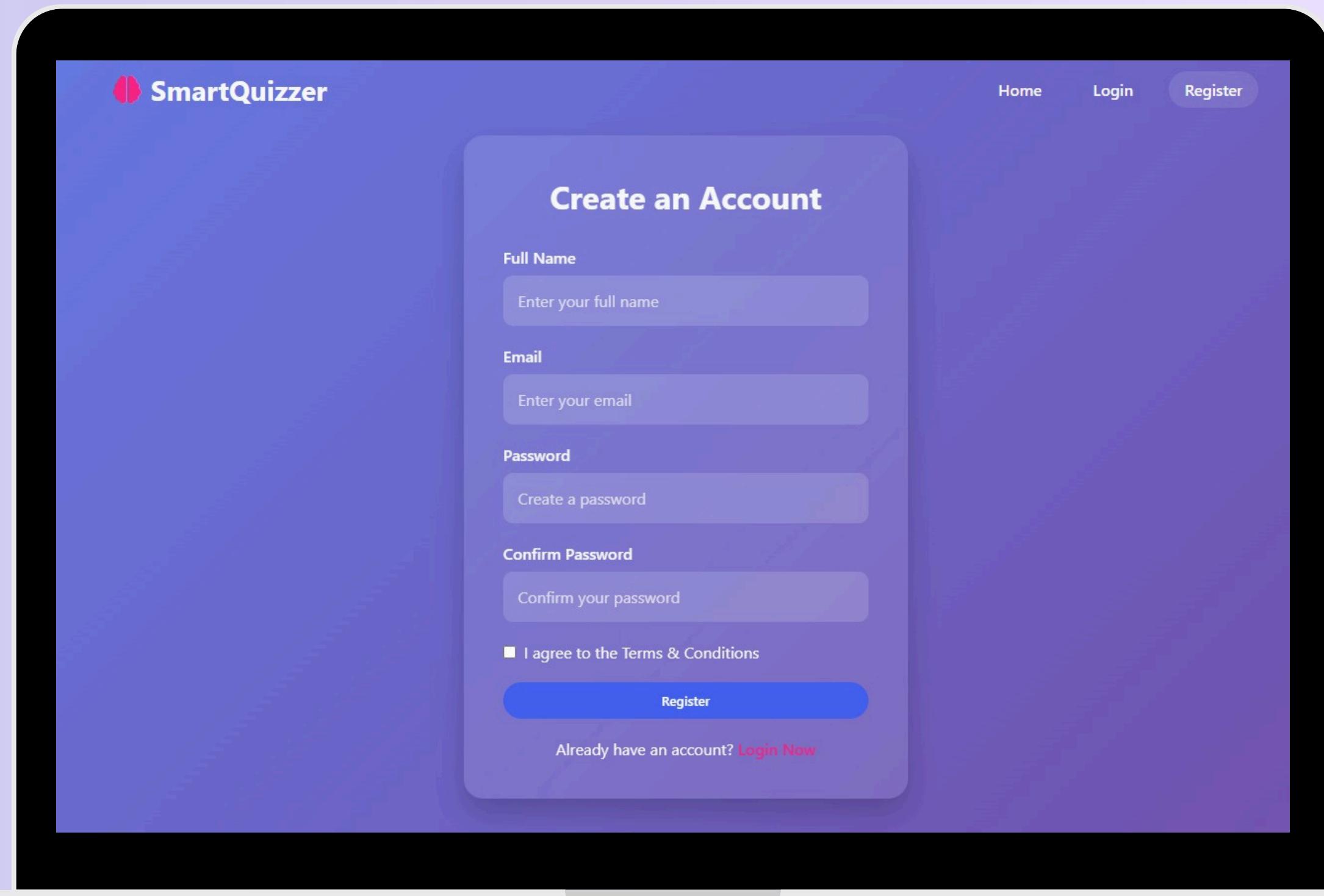
 **Track Progress**
Monitor your improvement with detailed analytics and performance reports across various subjects.



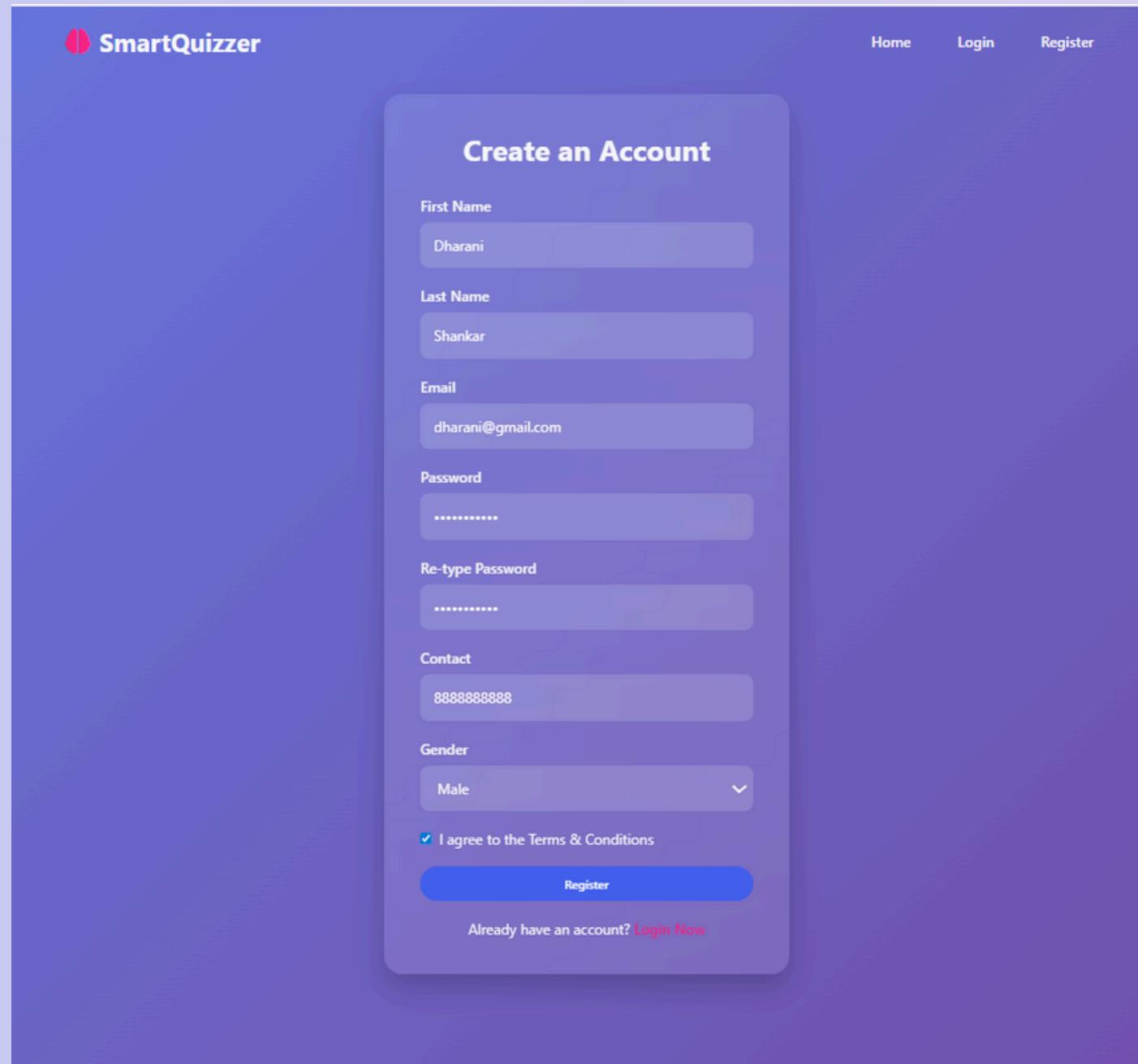
Login Page



Registration Page



Database connection



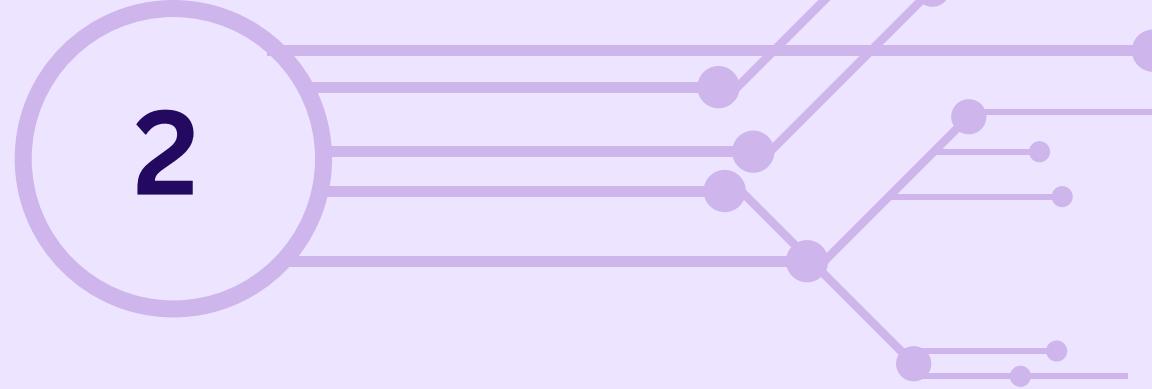
The image shows a screenshot of a web application named "SmartQuizzer". At the top, there is a navigation bar with links for "Home", "Login", and "Register". The main content area features a "Create an Account" form. The form includes fields for "First Name" (Dharani), "Last Name" (Shankar), "Email" (dharani@gmail.com), "Password" (a masked password), "Re-type Password" (a masked password), "Contact" (8888888888), "Gender" (Male), and a checkbox for "I agree to the Terms & Conditions". A large blue "Register" button is at the bottom of the form. Below the form, a smaller text link says "Already have an account? [Login Now](#)".



A large purple arrow points from the "Create an Account" form on the left towards the "All Registrations" table on the right, indicating the flow of data from user input to the database.

All Registrations

First Name	Last Name	Email	Contact	Gender
Harmannat	Kaur	harmannatkaur12main@gmail.com	09569404564	male
Gaurav	Agarwal	gaurav.agarwal@plaksha.edu.in	9002801300	male
Hanushree	mm	hanushree123@gmail.com	9999999999	female
abhinav	.	abhinav@gmail.com	1234567890	male
Dharani	Shankar	dharani@gmail.com	8888888888	male

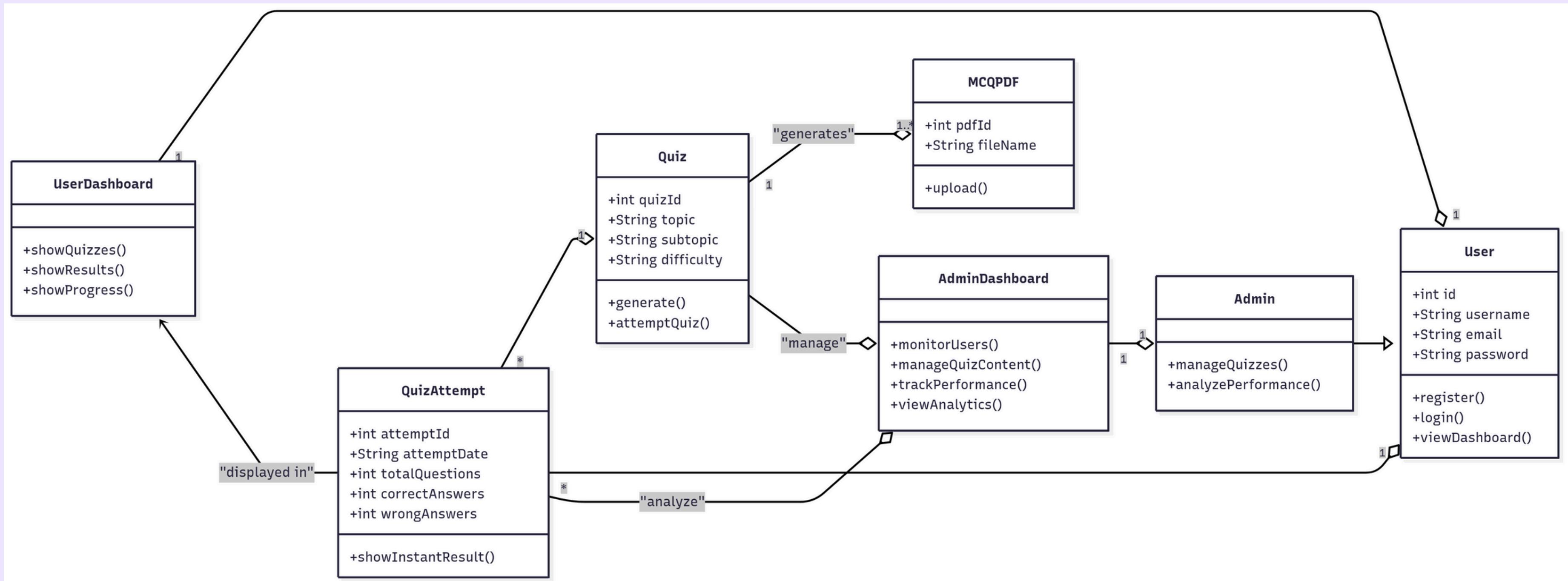


2

Milestone

- Developed user and admin dashboards to provide personalized views of platform activities and management functionalities.
- Created sample PDFs containing MCQ questions, uploaded and stored them in the database for quiz generation.
- Implemented a structured quiz system with support for topics, subtopics, and difficulty levels, allowing users to take quizzes in a flexible manner.
- Integrated result display on the user dashboard, showing quiz performance in real time.
- Configured result storage in the database, including detailed records of username, user ID, quiz date, topic, subtopic, difficulty level, number of questions, correct answers, and wrong answers.
- Enabled the admin dashboard to manage quizzes, track user performance, and analyze results efficiently.

Class Diagram



Admin Dashboard

The dashboard features four key performance indicators (KPIs) in blue boxes:

- Total Users: 4
- Quizzes Today: 1
- Avg. Score: 2000.0
- System Status: Online

Below the KPIs is a large purple section titled "Upload MCQs from PDF". It includes fields for selecting a topic, difficulty level, and a file upload area.

Topic: Select Topic
e.g., Decision Making Statements

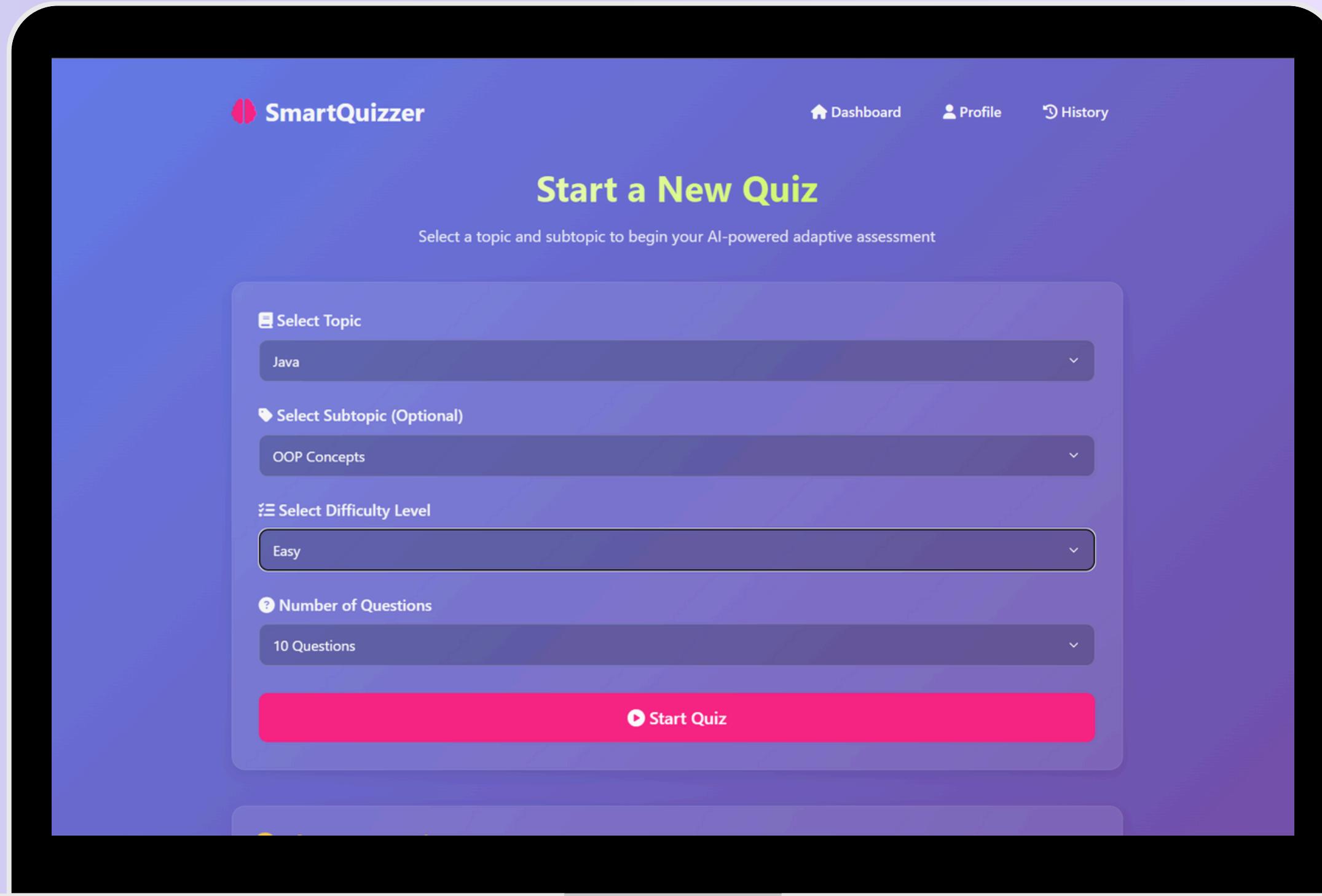
Difficulty Level: Select Difficulty

Choose a PDF file or drag it here

Upload & Extract MCQs



User Dashboard



Quiz Platform

Question 2 of 5

Topic: Java

Which keyword is used for method overriding?

- A. @Overload
- B. @Override
- C. overload
- D. override

Submit Answer



Result-User Dashboard

Your Quiz History						
Topic	Subtopic	Attempt Date	Score	Correct Answers	Wrong Answers	Total Questions
Data_Structures	Trees & Graphs	Sept. 9, 2025	100.0%	5	0	5
Java	OOP Concepts	Sept. 9, 2025	20.0%	1	4	5
HTML_CSS	Layout Techniques	Sept. 10, 2025	80.0%	4	1	5

Quiz Completed!

Congratulations on finishing the quiz

20%

Keep Practicing

Review the material and try again!

Topic: Java

Subtopic: OOP Concepts

Score: 1 out of 5

[Try Another Quiz](#)

[Back to Dashboard](#)



Result-Database

<u>id</u>	<u>topic</u>	<u>subtopic</u>	<u>difficulty</u>	<u>question_no</u>	<u>question</u>	<u>option1</u>	<u>option2</u>	<u>option3</u>	<u>option4</u>	<u>correct_answer</u>	<u>uploaded_at</u>
1	Python	Decision Making Statement	Medium	1	Which keywo... switch	case	if	choose	C	2025-09-04 07:22	
2	Python	Decision Making Statement	Medium	2	Which statem... elseif	elif	case	switch	B	2025-09-04 07:22	
3	Python	Decision Making Statement	Medium	3	What does i... True	False	Error	None	A	2025-09-04 07:22	
4	Python	Decision Making Statement	Medium	4	What will if ... True	False	Error	Null	B	2025-09-04 07:22	
5	Python	Decision Making Statement	Medium	5	Which operat... =	==	:=	====	B	2025-09-04 07:22	
6	Python	Decision Making Statement	Medium	6	Which operat... !=	<>	not=	!=	A	2025-09-04 07:22	
7	Python	Decision Making Statement	Medium	7	What does ... Execute...	Execute...	Runs ...	Ends ...	B	2025-09-04 07:22	
8	Python	Decision Making Statement	Medium	8	Which of th... if (x ...	if x >...	if x ...	if (x ...	B	2025-09-04 07:22	
9	Python	Decision Making Statement	Medium	9	What will be... Yes	No	Error	Nothing	A	2025-09-04 07:22	
10	Python	Decision Making Statement	Medium	10	Which evalua... if ""	if "Pyth..."	if [1,...	if 100	A	2025-09-04 07:22	
11	Python	Decision Making Statement	Medium	11	Which keywo... elif	elseif	case	continue	A	2025-09-04 07:22	
12	Python	Decision Making Statement	Medium	12	What does i... Runs bl...	Skips bl...	Error	Infinite ...	B	2025-09-04 07:22	
13	Python	Decision Making Statement	Medium	13	Which is cor... if a >...	if a >...	if a >...	if (a ...	C	2025-09-04 07:22	
14	Python	Decision Making Statement	Medium	14	What is the ... True	False	None	Error	B	2025-09-04 07:22	

<u>id</u>	<u>score</u>	<u>attempt_date</u>	<u>topic</u>	<u>subtopic</u>	<u>user_id</u>	<u>correct_answers</u>	<u>total_questions</u>	<u>wrong_answers</u>
1	100	2025-09-09	Data_Structures	Trees & Graphs	7	5	5	0
2	20	2025-09-09	Java	OOP Concepts	7	1	5	4
3	80	2025-09-10	2025-09-09	Layout Techniques	7	4	5	1
4	80	2025-09-11	JavaScript	DOM Manipulation	6	4	5	1
5	20	2025-09-12	Java	OOP Concepts	6	1	5	4
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL



PDFs for MCQ Questions

Example: Questions on Cloud Security

Easy

1. What is cloud security primarily concerned with?
A) Protecting data, applications, and infrastructure in the cloud
B) Improving internet speed
C) Compressing cloud storage
D) Reducing latency
2. Which type of cloud deployment allows resources to be shared among multiple organizations?
A) Public cloud
B) Private cloud
C) Hybrid cloud
D) Community cloud
3. Which cloud model provides infrastructure as a service (IaaS)?
A) AWS EC2, Microsoft Azure VMs
B) Google Docs
C) Salesforce CRM
D) Dropbox
4. Which cloud model provides platform as a service (PaaS)?
A) Google App Engine, AWS Elastic Beanstalk
B) AWS FC2

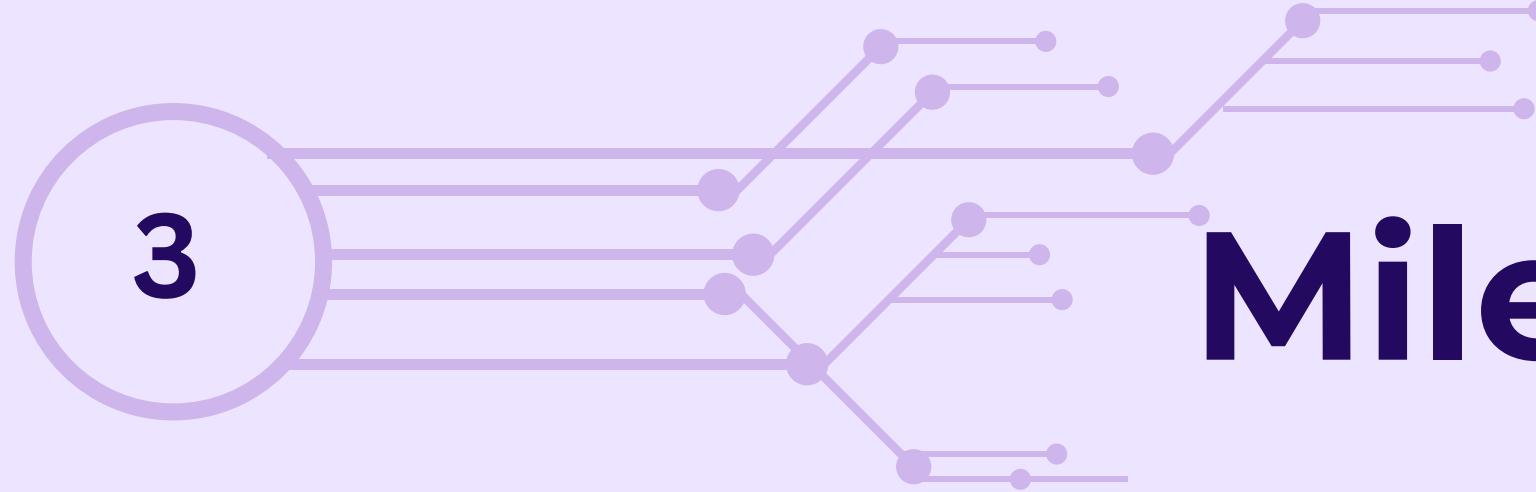
Hard

1. What is the main purpose of cloud logging and monitoring?
A) Detect anomalies and suspicious activity
B) Encrypt data
C) Compress storage
D) Allocate CPU resources
2. Which of the following is a cloud compliance regulation in the EU?
A) GDPR
B) HIPAA
C) SOC 2
D) ISO 27017
3. How does zero trust architecture improve cloud security?
A) By eliminating implicit trust and enforcing strict verification
B) By storing all data locally
C) By removing encryption needs
D) By disabling IAM policies
4. What is the main challenge in applying GDPR to global cloud providers?
A) Data jurisdiction issues

Medium

1. What is a cloud security posture management (CSPM) tool used for?
A) Detect and remediate misconfigurations
B) Encrypt data
C) Backup databases
D) Deploy VMs
2. Which type of attack involves exploiting weak API endpoints in cloud applications?
A) API attack
B) Phishing
C) DDoS
D) Malware injection
3. Which compliance standard is essential for payment card industry data?
A) PCI DSS
B) HIPAA
C) SOC 2
D) ISO 27017
4. What is the purpose of role-based access control (RBAC)?
A) Restrict system access based on user roles
B) Encrypt data
C) Backup files





3

Milestone

- Added **Quiz History section** on the user dashboard showing topic, subtopic, number of quizzes taken, and average score.
- Extended database to support quiz history storage and retrieval.
- Improved result analytics with aggregated performance insights.



Quiz History Section

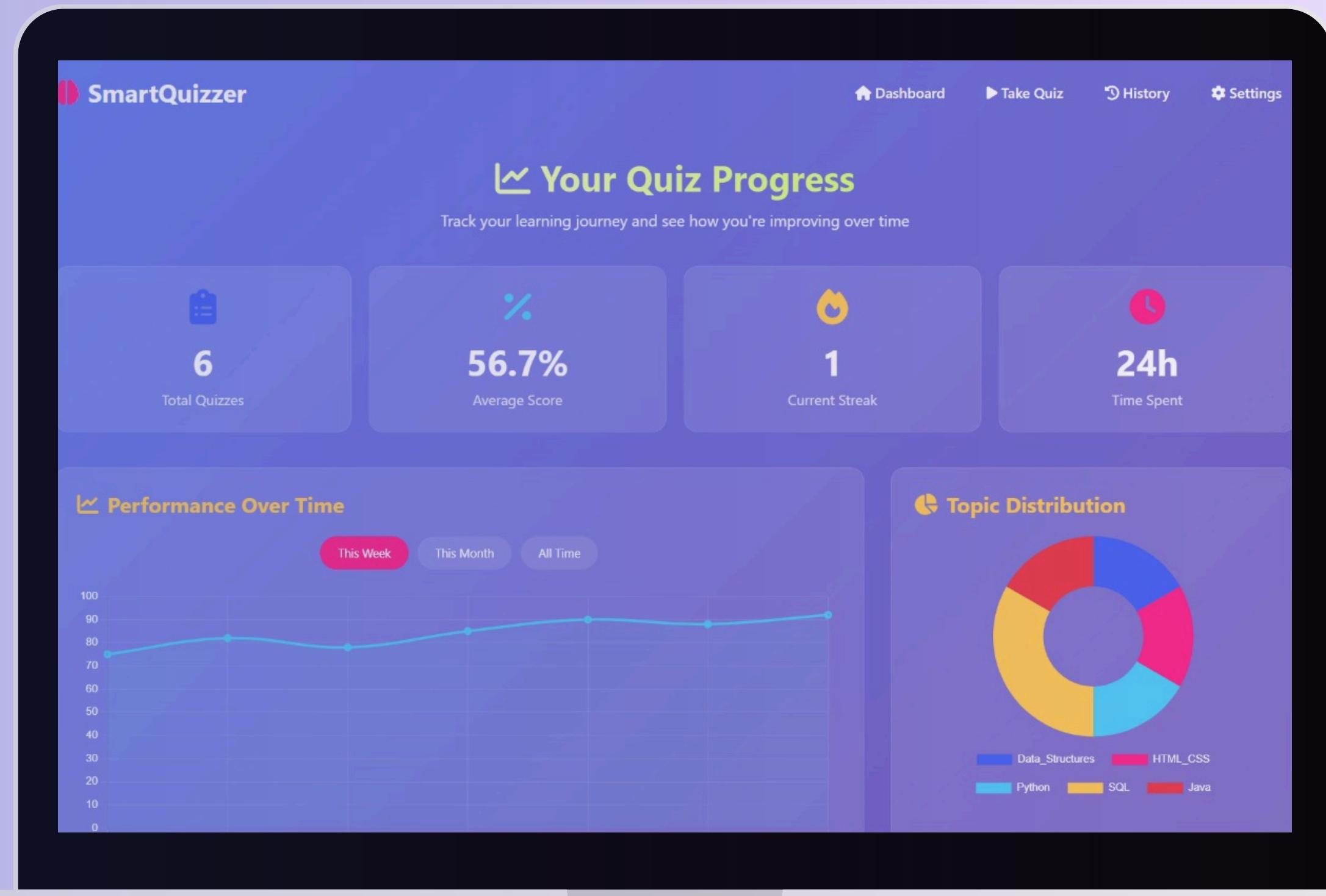
The screenshot displays a 'Quiz History' section with three completed quizzes:

- Data_Structures Quiz**:
 - Date: Sep 09, 2025
 - Topic: Trees & Graphs
 - Difficulty: Medium
 - Score: 100.0% (Final Score)
 - Attempts: 5 Correct, 0 Wrong, Total 5
 - Time Ago: 1 week, 2 days Ago
- Java Quiz**:
 - Date: Sep 09, 2025
 - Topic: OOP Concepts
 - Difficulty: Medium
 - Score: 20.0% (Final Score)
 - Attempts: 1 Correct, 4 Wrong, Total 5
 - Time Ago: 1 week, 2 days Ago
- HTML_CSS Quiz**:
 - Date: Sep 10, 2025
 - Topic: Layout Techniques
 - Difficulty: Medium
 - Score: 80.0% (Final Score)
 - Attempts: 4 Correct, 1 Wrong, Total 5
 - Time Ago: 1 week, 1 day Ago

Filter options at the top include: Filter by Topic (All Topics), Filter by Score (All Scores), and Filter by Date (All Time).



Performance Analytics



Quiz History Summary

Quick Actions

Start New Quiz
AI-powered adaptive assessment

View Progress
Detailed analytics & insights

Browse Topics
Explore learning subjects

Quiz History
Review past attempts

Quiz History Summary

SQL 2 quizzes
Subtopic: Basic Queries
Average Score: 40.0%

Data_Structures 1 quiz
Subtopic: Trees & Graphs
Average Score: 100.0%

Java 1 quiz
Subtopic: OOP Concepts
Average Score: 20.0%

HTML_CSS 1 quiz
Subtopic: Layout Techniques
Average Score: 80.0%

Python 1 quiz
Subtopic: Decision Making Statement
Average Score: 60.0%

Recent Activity

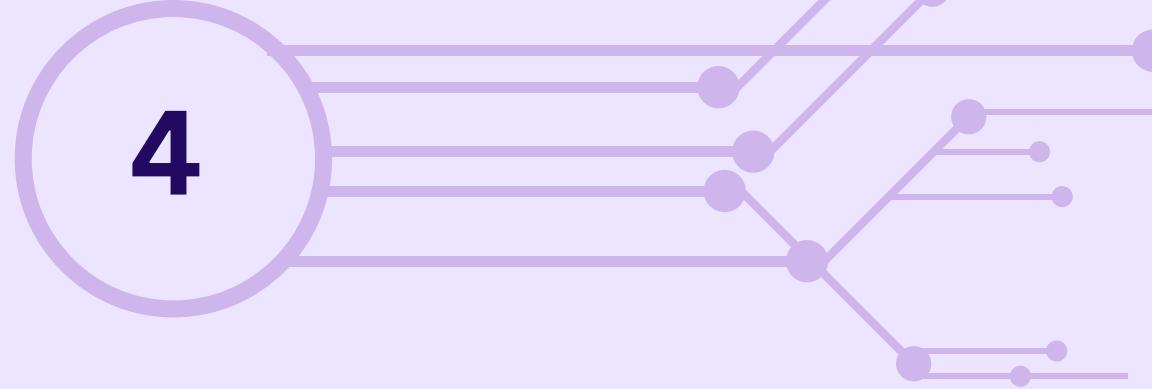
✓ Completed SQL Quiz - Score: 60% 23 hours, 29 minutes ago



Database-Quiz History Storage

	id	score	attempt_date	topic	subtopic	user_id	correct_answers	total_questions	wrong_answers	difficulty	time_taken
▶	1	40	2025-09-19	SQL	Basic Queries	7	2	5	3	Medium	0.12
	2	20	2025-09-19	SQL	Basic Queries	7	1	5	4	Medium	0.12
	3	60	2025-09-19	Python	Decision Making Statement	7	3	5	2	Medium	0.52
	4	40	2025-09-19	Cybersecurity	Concepts	7	2	5	3	Medium	0.22
	5	20	2025-09-19	AI_Machine_Learning	Deep Learning - Neural Networks & CNNs	6	1	5	4	Hard	0.65
	6	40	2025-09-19	General	Current Affairs	6	2	5	3		0.12
	7	80	2025-09-19	JavaScript	DOM Manipulation	6	4	5	1	Easy	0.20
◀	8	40	2025-09-19	HTML_CSS	Layout Techniques	6	2	5	3	Hard	0.12
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL





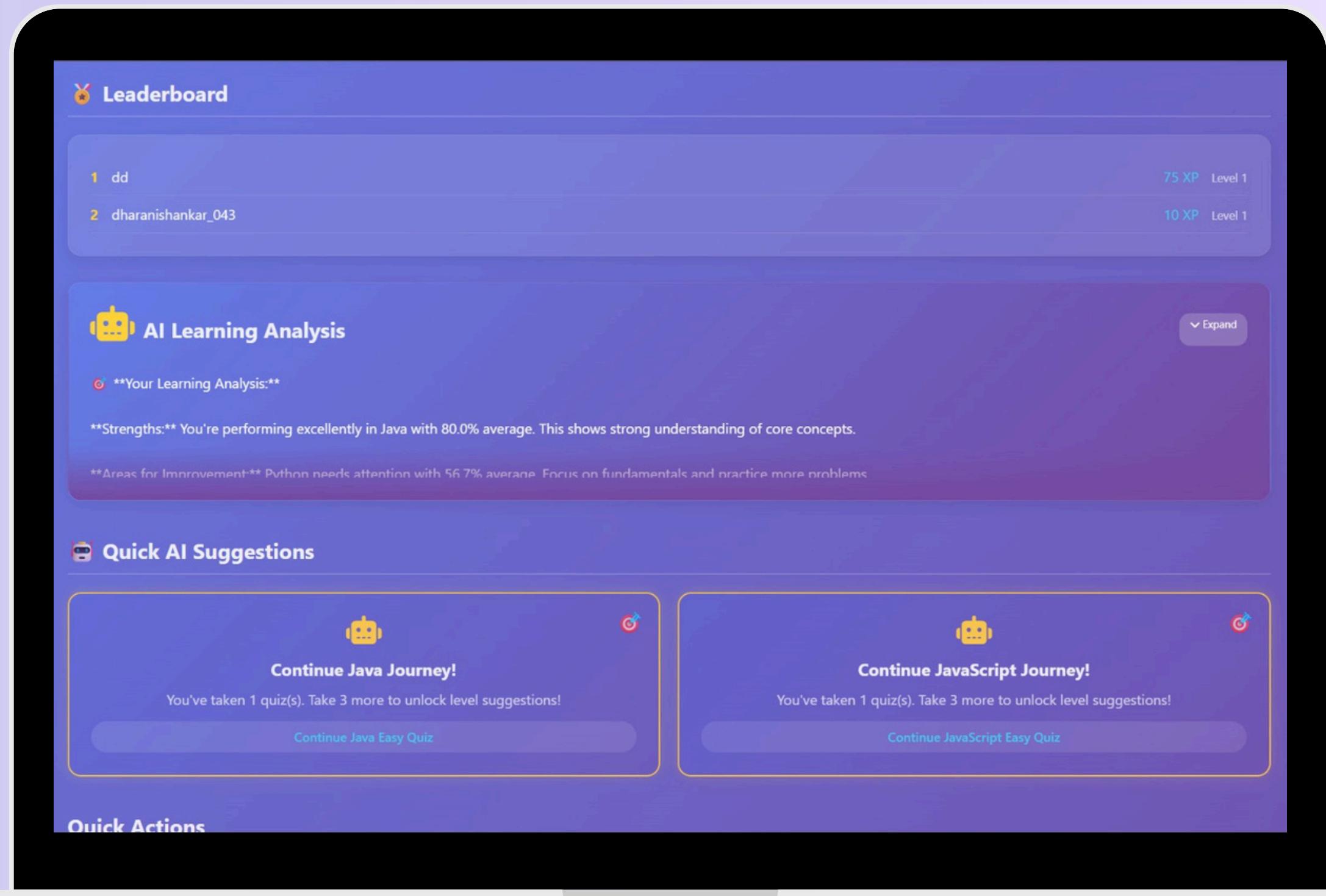
4

Milestone

- Implemented suggestion box using Google's Gemini API
- Suggestion logic based on user performance and test attempts
- Easy → Medium: 5+ attempts, average $\geq 80\%$
- Medium → Hard: 5+ attempts, average $\geq 75\%$
- Hard → Next Topic: 3+ attempts, average $\geq 80\%$
- Provides adaptive learning path and personalized progression
- Integrated into dashboard for real-time user guidance



Suggestion System



Team Members

- Abhinav Anand
- Dharani Shankar
- Hanushree
- Harmannat Kaur
- Meghana Allu





Thank
You.