

# A 2-days National Level Hackathon on AI in education

**SmartQuiz Generator**

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[www.samadhan.sistec.ac.in/](http://www.samadhan.sistec.ac.in/)



# Problem Statement

- Teachers and students often face challenges in creating high-quality quizzes quickly. Manual quiz preparation is time-consuming, repetitive, and prone to limited variety.
- Traditional quiz platforms usually require users to input all questions manually, making the process inefficient.

# Proposed solution

- - We propose building a SmartQuiz Generator that uses AI-powered question generation to automatically create quizzes from any given topic.
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- - Users will simply input a topic or subject area, and the system will generate multiple-choice questions along with answers. The platform will also provide automatic grading, performance analytics, and score visualization through a clean CSS-based interface.
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# Approach & methodology

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- 1. User Input: Users enter a topic or subject.
- 2. Question Generation (AI):  
The backend (Java) sends the input to the OpenAI API.  
The API generates a set of MCQs with answer keys.
- 3. Quiz Delivery: The quiz is displayed on a responsive CSS-based interface.  
Progress bars and score visualization enhance user engagement.
- 4. Evaluation & Analytics: Automatic grading after submission.  
Performance analysis with detailed feedback (accuracy, strengths, weaknesses).
- 5. Data Handling: Java backend manages quiz flow, scoring, and storing user data.  
Results saved for future tracking and improvement.





# key Features

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- Automatic quiz generation from chosen topics
- Multiple formats: MCQs, True/False, Fill in the Blanks
- Difficulty level selection (Easy, Medium, Hard)
- Instant scoring and feedback system
- Option to download or share quiz (PDF/Link)
- User accounts to save quizzes and track performance



# Tech Stack Used

- Frontend: React.js, Tailwind CSS
  - Backend: Node.js, Express.js
  - Database: MongoDB / Firebase
  - AI Integration (optional): OpenAI API for generating dynamic questions
- Deployment: Netlify (Frontend), Render/Heroku (Backend)



# Expected outcome

- A fast and user-friendly quiz-making tool for teachers and students
- Saves time and effort in manual quiz preparation
- Personalized quizzes improve learning and engagement
- Scalable solution that can expand into a mobile app in the future
- Practical hands-on experience in full-stack and AI integration