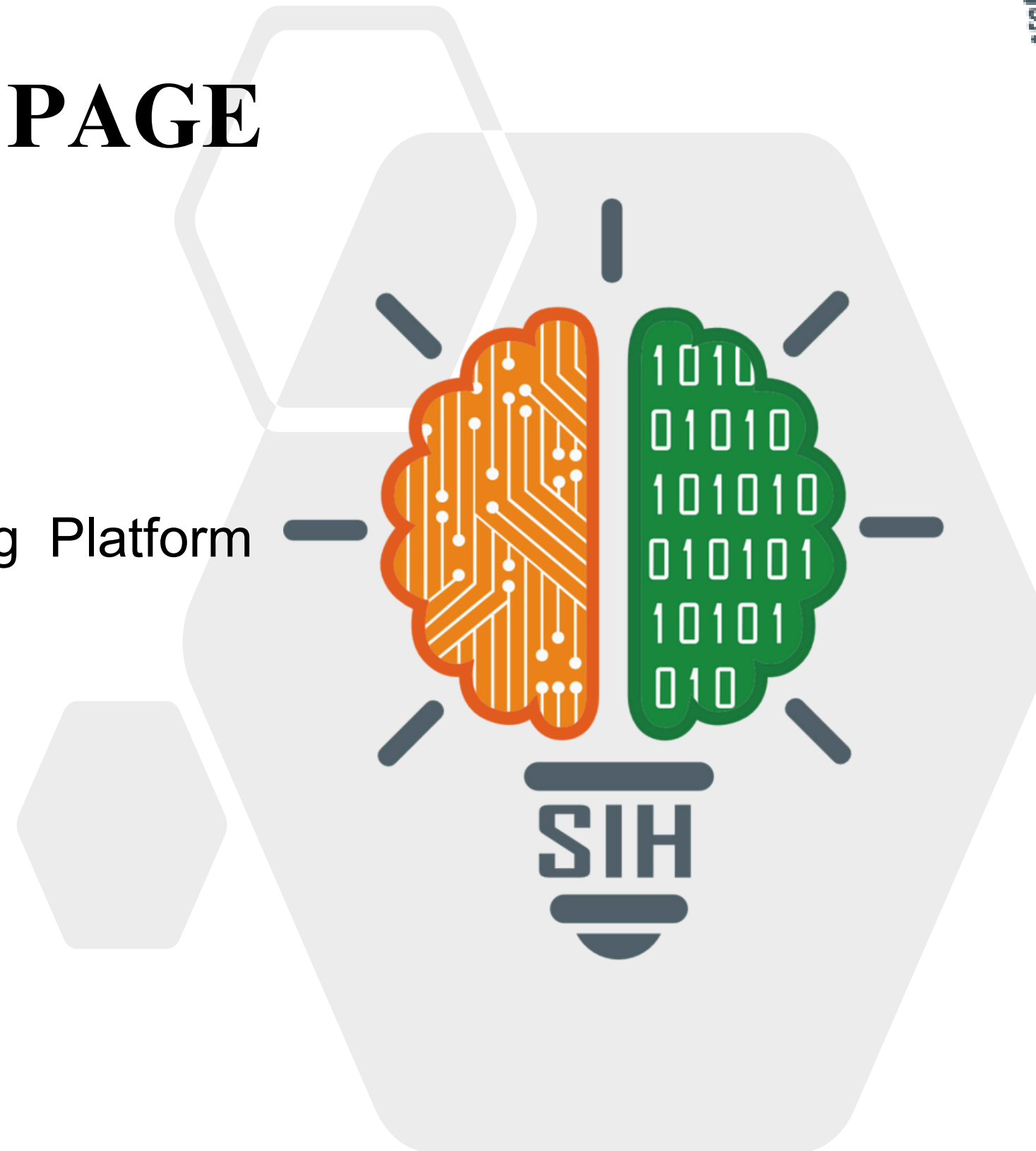# SMART INDIA HACKATHON 2025

TITLE PAGE

- **Problem Statement ID –** 25019

- **Problem Statement Title-** Digital Learning Platform for Rural School Students in Nabha

- **Theme-** Smart Education

- **PS Category-** Software

- **Team ID-** Bit Wizards

- **Team Name -** Bit Wizards

IDEA TITLE

SMART INDIA HACKATHON 2025

"A Smart digital learning platform designed for rural school students in Nabha. It provides bilingual interactive content, offline access, AI-based doubt resolution, and teacher dashboards to enhance learning outcomes."

How it addresses the problem

- Removes barriers of poor connectivity by enabling offline learning.
- Provides local language content to improve understanding.
- Reduces dependency on limited teachers through digital lessons & AI support.
- Boosts student engagement with gamified learning modules.
- Optimized for low-cost devices ensuring long-term sustainability.
- Includes digital literacy modules like computer basics , coding for beginners.

Innovation and uniqueness of the solution

- Gamification + Progress Tracking for motivation and accountability.
- Scalable model adaptable to other rural districts.
- Provides Academia Library, offers learning from high-level books and resources .
- Allow students to share Videos, Quizzes, and Notes offline via bluetooth.
- Based on performance and interest, platform recommends customized content paths for each student.

TECHNICAL APPROACH

Languages: JavaScript, Python, HTML, CSS
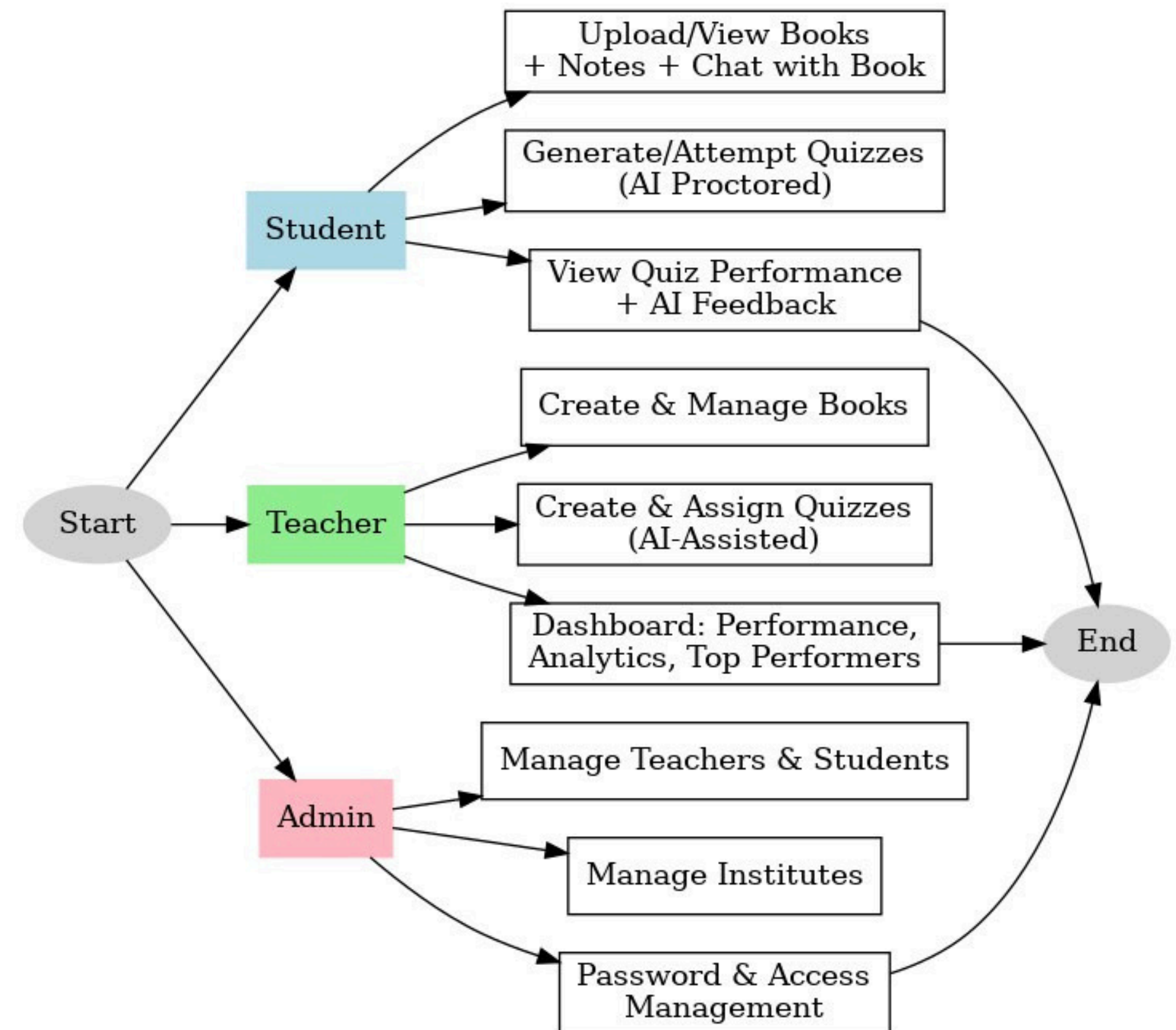**Frameworks:** React.js, Node.js, FastAPI, Tailwind CSS
Database: MongoDB
AI Tools: LLM (quiz/notes/doubts), Multilingual NLP
Security: JWT Authentication
Others: REST APIs, Offline Caching

Start → Student
- Upload/View Books + Notes + Chat with Book
- Generate/Attempt Quizzes (AI Proctored)
- View Quiz Performance + AI Feedback

Start → Teacher
- Create & Manage Books
- Create & Assign Quizzes (AI-Assisted)
- Dashboard: Performance, Analytics, Top Performers

Start → Admin
- Manage Teachers & Students
- Manage Institutes
- Password & Access Management

End

FEASIBILITY AND VIABILITY

➤ FEASIBILITY

- Available technology supports offline access and bilingual content delivery.
- Teachers and local volunteers can be trained to manage and support the platform.
- Content aligned with state curriculum ensures integration into existing school systems.
- High demand for quality education in rural areas.

➤ POTENTIAL CHALLANGES

- Students or parents may be unfamiliar or uncomfortable with digital tools.
- Preference for traditional learning methods.

➤ STRATEGIES TO OVERCOME CHALLENGES

- Collaborate with local educators to ensure cultural and contextual accuracy.
- Collect regular feedback from users to improve the platform.

IMPACT AND BENEFITS

## Potential Impact on the Target Audience

- Provide rural students with access to quality digital education resources.
- Improves learning outcomes through interactive lessons and quizzes.
- Empowers students with digital literacy skills, preparing them for future opportunities.
- Exposure to real-life scenarios, simulations, and open-ended questions fosters creative thinking, imagination, and logical reasoning.

Benefits of the Solution

- Digital platforms at home can support continued education for girls, even where travel to school may be limited.
- A more educated population contributes to social upliftment and local leadership.
- Reduces the cost of books and materials over time through digital delivery.
- Reduces the use of textbooks, worksheets, and printing.
- Efficient offline systems can reduce the need for extensive infrastructure like computer labs or internet-heavy setups.

Bit Wizards
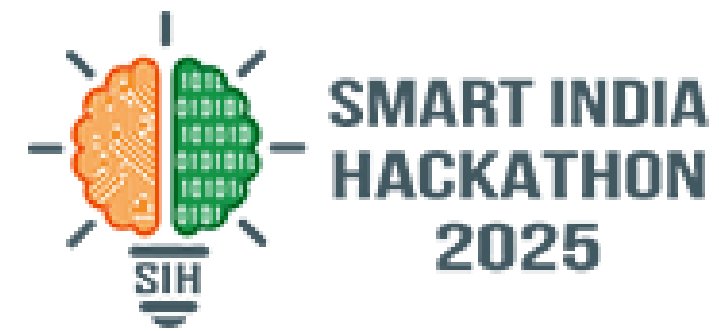
We collected the information from the

DIKSHA(National portal of India)& **SWAYAM**
and seen the life condition of rural areas.

National digital library of India:https://ndl.iitkgp.ac.in/

UNESCO – ICT inEducation:https://www.unesco.org/en/education/digital